

Additional chart coverage may be found in CATP2, Catalog of Nautical Charts. $SECTOR~\textbf{1} \longrightarrow CHART~INFORMATION$

SECTOR 1

NORWEGIAN-RUSSIAN BOUNDARY TO THE WHITE SEA

Plan.—This sector describes the NW coast of Russia, from the Norwegian border to the White Sea (Beloye More). The sector also describes the off-lying islands, islets and dangers. The descriptive sequence is SE to the entrance of the White Sea, then S to Mezenskaya Guba and finally SSW to Mys Zimnegorskiy, the SE end of Gorlo Belogo Morya.

General Remarks

1.1 Winds—Weather.—Great changes in the weather conditions are generally found in this area. Winds, fog, and rain occur with suddenness, and change again as rapidly. Thick fogs usually occur at the end of May and the beginning of June, especially off the coast. These fogs usually penetrate the various fjords, but are very patchy. Sometimes there is thick weather in the fjords, but clear weather is found at sea, and vice versa. The extremities of these patches of fog are clearly defined, ending with wall-like abruptness.

Mirages frequently occur in calm weather in the summer, mainly in the morning and evening. Prevailing winds are E in the summer, strong and variable in the autumn, and SW in the winter, with frequent storms.

In certain weather conditions, ice may accumulate on the hulls and superstructures of vessels. This event may result in a dangerous situation. A combination of strong winds, precipitation, and spray in sub-zero temperatures can result in ice accumulation. It can also form when fog is combined with freezing conditions or in freezing drizzle or rain. The conditions are likely to occur at any time between September and June.

If vessels are unable to reach shelter or warmer conditions, they should head into the wind and sea at the slowest speed possible. If weather conditions do not allow the former action, vessels should put the wind astern and proceed at the least speed necessary for maintaining steerage.

Ice.—Generally, the ice to the W of 36 ° does not impede navigation even during severe conditions. Coastal ice may form in all places E of 32° and especially where there is a fresh water outflow

Aspect.—Murmanskiy Bereg, the westernmost Arctic coast of Russia, forms the N and in part, the NE shore of Poluostrov Kol'skiy, which in turn forms the N shore of the White Sea. Jakobselv, the river boundary between Norway and Russia, lies 25 miles WSW of Mys Nemetskiy. The NW coast of Poluostrov Rybachiy, located 25 miles ENE of Jakobselv, is bordered by black cliffs, behind which there are low hills covered with green peat.

Directions.—The direct route from the W to Proliv Yugorskiy Shar, the southernmost passage leading from the Barents Sea into the Kara Sea, passes between 60 and 150 miles N of Murmanskiy Bereg (69°00'N., 35°00'E), about 100 miles N of Poluostrov Kanin (68°10'N., 45°00'E), and 40 miles N of Ostrov Kolguyev (68°42'N., 48°40'E). Proliv Yugorskiy

Shar is also the SW limit of the Northern Sea Route, which leads E from this passage to the Bering Strait.

For information concerning icebreakers and the Northern Sea Route, see Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean.

Caution.—When navigating between Jakobselv and Guba Pechenga, vessels should not approach the land nearer than 3 miles, unless absolutely necessary, as the survey of this part of the coast is incomplete. The tidal currents here attain a velocity of 1.5 to 1.8 knots.

There are extensive fishing grounds lying along the Murmanskiy coast. The fishermen frequently mark their fishing grounds, which may easily be mistaken for indications of shoal water.

Local magnetic anomalies have been experienced along Murmanskiy Bereg E of the N end of Poluostrov Rybachiy.

Vessels are warned to exercise care when approaching the coast in foggy weather.

For information concerning Regulated Areas, Former Mined Areas, and Magnetic Variation, see Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean.

The wreck of the Russian submarine "Kursk" is reported (2000) to lie offshore in position 69°37'N, 37° 35'E. Survey and other vessels may be encountered in this vicinity.

Jakobselv (Reka Yakobsel'v) to Guba Pechenga (Petsamonvuono)

1.2 Jakobselv (Reka Yakobsel'v) (Reka Vor'yema) (69°47'N., 30°50'E.) forms the boundary between Norway and Russia. The coast E of the mouth of Jakobselv is generally bold and of moderate height. The river flows between steep hills and has many rapids. It is navigable only by boats up to 3 miles from the mouth, which is narrow and dries. A bank, with depths of less than 18m, extends 0.6 mile NNE of a point on the W side of the mouth of the river. An iron perch marks some rocks, awash, lying 0.3 mile NNE of the above point. A white stone chapel, with a tower, stands on the W side of the mouth of the river, 0.5 mile SE of the W entrance point. This chapel is prominent from seaward and from N appears as if it is standing on the sandy foreshore.

The seaward section of the boundary is indicated by the alignment of two lighted beacons, bearing 208°, standing on the W side of the river. A spar buoy is moored 0.5 mile N of the E entrance point and close E of the alignment.

Anchorage, exposed to N winds, may be obtained in depths of less than 20m in a fairly extensive area fronting the mouth of the river. Small craft may anchor farther inshore in depths of 6 to 8m, sand.

Lapinmukka (Finmanskoe), a cove, lies 0.5 mile E of the mouth of the Jakobselv. Anchorage in depths of 7 to 9m is available for vessels with local knowledge, but the roadstead is exposed to N winds and a swell at times. The entrance is

encumbered by an islet, 12m high, in addition to several rocks and shoals.

Stolbova, 0.8 mile E of Lapinmukka, is a cove used by boats, the entrance of which is protected by two steep-sided islets.

Aaresvuono (69°47'N., 30°56'E.), a small inlet, lies 2 miles E of Jakobselv. It is about 0.4 mile wide at its entrance. Due to its great depth, this inlet is not recommended as an anchorage. If necessary, a vessel may anchor about 0.2 mile from the head of the inlet in depths of 29 to 40m, although this anchorage is unprotected from N winds.

Suolavuono lies 2.8 miles ESE of Aaresvuono and extends 1 mile in a SSE direction from its entrance. A river flows into its head. A rock, which dries and is steep-to, lies 0.1 mile N of the E entrance point and a small group of drying rocks lies near the center of the inlet. Small vessels can obtain anchorage in the inlet in depths of 8 to 10m, sand and clay. The anchorage is sheltered from N winds and comparatively free from swells.

1.3 Peuravuono (69°44'N., 31°13'E.), a narrow inlet, is entered 4 miles SE of Ostaniemi, the E entrance point of Suolavuono. The inlet extends 2 miles in a SSE direction between two steep hills. From the sea, it resembles a gorge. The mouth of the inlet is very shallow, but inside the depths are great.

Nurmensatti (69°42'N., 31°25'E.), a peninsula, lies 4.5 miles SE of the entrance to Peuravuono. It is connected to the mainland by a narrow isthmus, on which there is a village. On each side of the isthmus there is a bay, the NW and larger of the two is Pohjoismukka.

A rock, with a depth of less than 2m, lies 0.1 mile N of the W entrance point of Pohjoismukka. The fairway of the entrance lies E of this rock and has depths of 7 to 9m. Anchorage may be taken in Pohjoismukka in depths of 9 to 16m, sheltered from all winds.

Etelamukka, the SE bay, provides anchorage for small vessels with drafts of not more than 3.6m. The bay extends 0.2 mile inland. There are three small piers at the head of the bay, available for small vessels at HW only.

Guba Pechenga (Pechengskaya)

1.4 Guba Pechenga (69°41'N., 31°27'E.) is entered between two granite hills, which are almost bare except for some patches of moss. The W entrance point, 0.8 mile SSE of Nurmensatti, is high, steep, and dark in color. Numeroniemi, from which a light is shown, is the E entrance point and is much lower and lighter in color. A shoal, marked by a buoy, lies 0.8 mile N of Numeroniemi. Numerolaassa, an islet, lies 0.2 mile NNW of the light and is almost connected to Numeroniemi by foul ground.

Guba Pechenga consists of four reaches. The first reach is 3.5 miles long and runs in a general SSW direction. Its shores are steep-to, except for a small and flat island, which is located off the W side, about 1.8 miles SSW of Numeroniemi. The second reach takes a sharp turn to the W and forms Linakhamari Bay. A beacon stands on the E extremity of Veneniemi, the W entrance point of the third reach which extends 1 mile S from the bay. The fourth reach continues to the head of Guba Pechenga.

Range lights are shown from the S end of the first reach and, bearing 196°30', indicate the entrance fairway.

Trifona (69°36'N., 31°16'E.) is situated on the N side of the mouth of a river which flows into the W side of the fourth reach. There is a pier, 61m long with a depth of 4.5m alongside. There is also good anchorage off this settlement.

Linakhamari (69°42'N., 31°22'E.) is situated on the W side of Linakhamari Bay at the head of the second reach. The most important harbor in Guba Pechenga, it is always clear of ice.

Ice.—Ice piles up in the third reach, but access to the inlet is possible throughout the winter. The inlet is clear of ice about the beginning of June. However, in winter the ice does not drift out of the inlet; in the spring, it breaks up during strong winds and is carried out with the current from the river.

Depth—Limitations.—The government wharf is 46m long and has a maximum depth of 6m alongside. During NW winds, the wharf is affected by heavy swell. A pier, 183m long with depths of 7.1 to 7.6m alongside, is situated on the NW side of the harbor. There is also a coal wharf, with a depth of 8.5m alongside, and an oil wharf, with a depth of 7.6m alongside.

Pilotage.—No pilots are available, but assistance may be obtained from the harbormaster. Local knowledge is required.

Regulations.—It is reported (1996) that this port is not open to foreign shipping.

Anchorage.—The usual anchorage for large vessels is in the second reach off Linakhamari, where there are depths of 20 to 35m between the wharf and the pier, about 0.2 mile offshore. The anchorage is sheltered from all winds, but is subject to swells. Vessels usually secure their sterns to the shore.

Caution.—A prohibited anchorage lies at the N end of the third reach and a submarine cable, which may be seen on the chart, lies in the center of the second reach and along the W side of the first reach.

Guba Pechenga to Mys Nemetskiy

1.5 Guba Ambarnaya (Pikku Maattivuono) (69°40'N., 31°30'E.), is entered between Numeroniemi and Mys Krikun, a high and bold point 0.5 mile NE. The shores of the inlet are steep and clear of dangers. The inlet is exposed to N winds and the only sheltered anchorage is in a cove at Paitahamina on the W side, 0.5 mile within the entrance. There is a small pier at the head of the cove.

Guba Malaya Volokovaya (Maattivuono) (69°41'N., 31°43'E.), an inlet on the SW side of Poluostrov Sredniy, is entered between Hirvasniemi, 2.5 miles ESE of Mys Krikun, and Valasniemi (Mys Volokovyy), 2 miles NNE. The inlet is 4 miles long, extends in a SE direction, and from its 2 mile wide entrance it narrows steadily toward the head, where the width is about 0.5 mile. The inlet is reported not to freeze over in the winter. There is no anchorage available, and the inlet is rarely visited.

Mys Zemlyanoy (Pummanginniemi) (69°50'N., 31°47'E.), located 7.2 miles NNE of Valasniemi, is the N extremity of Poluostrov Sredniy. A light is shown from the point. Gora Zemlyanaya (Pummanki), 200m high, stands 1 mile S of the point and is prominent.

Ostrov Bol'shoy Aynov (Heinasaari) (69°50'N., 31°35'E.), an island 4 miles W of the N extremity of Poluostrov Sredniy, is 20m high and can be seen in clear weather from a distance of

10 miles. A light structure, equipped with a radiobeacon, is situated near the SW end of the island.

Ostrov Malyy Aynov (Peini Heinasaari), 24m high, lies 1 mile SE of Ostrov Bol'shoy Aynov. A light is shown from the S part of this island. The bottom around Ostrov Malyy Aynov is rocky and there is no suitable anchorage. Anchorage can be obtained, during N winds, off the SW side of Ostrov Bol'shoy Aynov in a depth of 37m, sand. Anchorage may also be obtained off the E side of Ostrov Bol'shoy Aynov, but it is not recommended as the bottom is mostly sand and shingle.

Guba Bol'shaya Volokovaya (Pummanginyuono) is entered between Zemlyanoy and Mys Koroviy, 3.5 miles ENE. It is a large, open and exposed bay. It has been reported that the bay never freezes except for an icefoot which forms around the head between the high and low water marks. The bay is 3 miles wide at its entrance and extends SE for a distance of 7 miles. Pummanki, a settlement, stands on the W shore of the bay, 4.8 miles from the entrance. There is a small pier at the settlement and it is used mainly by fishing vessels. A rocky patch, marked by a spar buoy, lies about 1 mile NNE of the settlement. A similar buoy marks the E side of the patch on the N side of the approach to the pier. The bay does not afford safe anchorage as it is open NW and the depths are considerable, but temporary anchorage may be obtained off the settlement E of the schoolhouse and about 0.3 mile offshore, in depths of 9 to 13m, sand and clay.

Mys Kiyskiy (Pitkaniemi) lies 3.5 miles NNW of Mys Koroviy. A light is shown from the point. The coast between forms a bay known as Kervannon Lahti. The bay is open to the W, but some protection is afforded by the islets lying along its outer part.

Ostrov Bol'shoy Kiy (Lunnisaaari), 13m high, lies 1.8 miles NNW of Mys Koroviy. The island is barren and fringed by a rocky reef. A rock, with a depth of 0.3m, lies 0.8 mile SE of the island and is marked by a buoy.

Ostrovok Malyy Kiy (Laassat), an islet, lies 0.8 mile SSW of Mys Kiyskiy. A reef, partly above water, extends about 0.8 mile NW from the islet. The best anchorage is NE of Ostrov Bol'shoy Kiy in a depth of 11m, good holding ground, midway between the island and the mouth of Reka Chernaya, 1.2 miles NE. Small vessels may anchor closer to the river mouth. A village stands NW of the entrance to the river. The anchorage may be reached by three channels, the safest and recommended passage being the W channel, between Ostrov Bol'shoy Kiy and Ostrovok Malyy Kiy.

Mys Nemetskiy (69°57'N., 31°57'E.), the NW extremity of Poluostrov Rybachiy, lies 2.8 miles NNE of Mys Kiyskiy. The coast between consists of black cliffs, 128m high. A light is shown from a prominent tower, 29m high, standing on the point. An aeronautical radiobeacon is situated at the light.

Mys Nemetskiy to Motovskiy Zaliv

1.6 Poluostrov Rybachiy (69°45'N., 32°35'E.) is 30 miles long and 12 miles wide at its broadest point. It has relatively even contours and low hills in contrast to the adjacent part of the mainland, with its lofty steep granite and rugged mountains. The nature of the bottom along and near the NE coast of the peninsula is made up of small stones, sand, and shells.

Caution.—A submarine cable lies off the coast of Poluostrov Rybachiy and may best be seen on the chart.

Guba Vayda (69°56'N., 32°00'E.) lies 2 miles ESE of Mys Nemetskiy and is entered between Mys Tonin and Mys Kekurskiy, 1.5 miles E. A beacon stands 0.5 mile W of Mys Tonin and another beacon stands on a hill which overlooks the head of the bay, 1.5 miles SW of Mys Tonin. Mys Kekurskiy is prominent due to its black, sharp-pointed and precipitous cliffs which resemble pinnacle rocks. A stranded wreck lies close SW of the point and another lies at the head of the bay. The head of the bay is shallow. The outer limit of the dangers on the E side of the bay is marked by a buoy, and the outer limit of those on the W side of the bay is marked by two buoys. Two beacons situated at the head of the bay, in range about 209°, lead to the entrance of the bay. Two small piers, suitable only for small craft at HW, are situated on the W side of the bay.

Anchorage can be obtained in a depth of 18m just S of a line joining the two entrance points. A more sheltered anchorage, but with poor holding ground, lies on the range about 0.2 mile SSW of the above anchorage.

Guba Skorbeyevskaya (69°53'N., 32°15'E.), 4.2 miles SE of Mys Kekurskiy, is entered between high and rugged points. A reef extends 0.1 mile NE from the NW entrance point. The cove has low and sandy shores, and some remarkable terrace formations at its head. A conspicuous beacon stands 1.8 miles ESE of the E entrance point of the cove.

Guba Zubovskaya (69°48'N., 32°36'E.) recedes 1.5 miles SW between Mys May-Navolok and Mys Lazar, 4.5 miles SE. A group of low, rocky islets divides the bay into three parts. There are general depths of 6.5 to 28m between the dangers in the three parts of the bay. A beacon stands on Mys Lazar and a prominent beacon stands on the easternmost islet of the group.

Anchorage for vessels of moderate draft is best obtained in the SE part of the bay, 1 mile SSE of the above beacon, in a depth of 13m. The bay should not be entered without local knowledge.

Caution.—A prohibited area, which may be seen on the chart, extends up to 3 miles offshore and includes the waters SE of Guba Skorbeyevskaya and within Guba Zubovskaya.

Guba Laush (69°44'N., 33°03'E.), entered between Mys' Laush, on which a light and radiobeacon are situated, and a point nearly 1 mile W, indents the coast for a distance of 1 mile. There is an anchorage in a depth of 15m, sand, just inside the entrance. The bay is sheltered except from N winds.

1.7 Mys Tsypnavolok (69°43'N., 33°08'E.) is located 2.5 miles SSE of Mys Laush. The coast between is low, rocky, black, bold, and rises gradually to Mys Voronkovskiy, 1 mile SE of Mys Laush. Mys Tsypnavolok is the extremity of a black tongue of land projecting 0.8 mile SE from the general line of the coast. It is very prominent from the N, but from other directions can only be identified by its color. A reef, the inner part of which dries, extends 0.1 mile SE from the point. Tsypnavolokskiy Light is shown from a prominent round, red tower, 32m high, standing 1.2 miles NW of Mys Tsypnavolok. A radiobeacon is situated close to the light.

Guba Tsypnavolok (69°43'N., 33°08'E.), entered directly W of the point of the same name, is the largest bay indenting the E

coast of Poluostrov Rybachiy. A fishing village at the N end of the bay is the largest on the peninsula. Two islets, being steepto on their NE sides, lie on the coastal bank on the SW side of the bay. Anchorage is best obtained at the N end of the bay, 0.4 mile W of Mys Tsypnavolok, in a depth of 14m and sheltered from winds.

Guba Bol'shaya Korabelnaya (69°41'N., 33°06'E.) is a cove entered between Mys Sergeyeva, 2.5 miles S of Mys Tsypnavolok, and Mys Tipunova, 0.5 mile farther SW. A spit, with a depth of 5.5m at its outer end, extends 0.3 mile SE from Mys Sergeyeva. An above-water rock, surrounded by foul ground, lies 0.4 mile SE of Mys Tipunova. Anchorage can be taken in depths of 8 to 11m, sand and mud, in the middle of the cove, which is open SE. Local knowledge is required.

Mys Bargoutnyy (69°39'N., 33°06'E.) is prominent and can be identified by its lofty terraced and bold appearance, resembling the bottom of a stranded vessel. Mys Bashenka, 0.8 mile SSW of Mys Bargoutnyy, is also very prominent and has a remarkable pinnacle rock, which resembles a small tower, lying close SE of it. A prominent tower stands 1.5 miles SW of Mys Bashenka.

Motovskiy Zaliv

1.8 Motovskiy Zaliv (69°32'N., 32°42'E.), on the S side of Poluostrov Rybachiy, is entered between Mys Sharapov, 5.2 miles SW of Mys Bargoutnyy, and Mys Vyyev-Navolok, 8.2 miles SSE. The gulf is deep and free from dangers, and its shores are mostly steep-to. The bottom is mostly rock near the shore and mud toward the middle. The N shore of the gulf consists of slate cliffs covered with green tundra and brush. The S shore is the higher, in some places rising in sheer, bare granite cliffs. With the exception of Motka Guba, the N shore is practically unindented, whereas the S shore contains four principal bays.

Caution.—Vessels using the inshore traffic zone to enter Motovskiy Zaliv must give way to vessels leaving the inlet.

Mys Sharapov (69°35'N., 32°57'E.), forming the E point of the N shore of Motovskiy Zaliv, has steep, black cliffs which descend in three slopes to the gulf from a height of 76m.

Mys Gorodetskiy (Mys Malyy Korabel'nyy) (69°34'N., 32°50'E.), 2.5 miles WSW of Mys Sharapov, protrudes prominently from the coast. This steep-to point consists of black cliffs which fall gradually into the sea. Rybachiy-Gorodetskiy Light is shown from a black pyramid, 12m high, standing on the point. A hummock lies 2.5 miles NNE of the point.

1.9 Guba Malaya Korabel'naya (69°35'N., 32°45'E.), the W of two coves, lies 1.8 miles WNW of Mys Gorodetskiy. There is anchorage for large vessels in the entrance to the cove in depths of 27 to 33m. Guba Mocha, a cove 4.5 miles WNW of Mys Gorodetskiy, affords shelter to small craft during N winds in the middle of the entrance, in a depth of about 27m. Large vessels can anchor off the cove in a depth of 33m.

Mys Eyna (69°36'N., 32°31'E.) lies 7 miles WNW of Mys Gorodetskiy and is marked by a light.

Guba Eyna, entered 2 miles WNW of Mys Eyna, indents the coast for a distance of 1.5 miles. A small village stands at the

head of the bay. Banka Yeynovskaya has a least depth of 2.7m and extends from the E shore 0.5 mile SSW of the village. A stranded wreck lies about 0.3 mile from the head of the bay. Anchorage can be obtained by large vessels in Guba Eyna, S of Banka Yeynovskaya, about 0.3 mile off either the E or W shore. Small craft may anchor nearer the head of the bay.

Mys Motka (69°38'N., 32°11'E.), 4 miles WNW of the W entrance to Guba Eyna, is high, bold, and rounded. Some large, black rocks lie close inshore, 0.8 mile NW of Mys Motka and continue farther N. A light is shown from Mys Motka.

Caution.—A measured distance lies in the middle of the gulf between Guba Eyna and Mys Motka. It is indicated by three pairs of beacons on the N shore and the alignment of two beacons at the head of the gulf, bearing 292°.

An area, in which anchoring and fishing are prohibited, extends from the N shore of the gulf between the E entrance point of Guba Eyna and Mys Motka and may best be seen on the chart.

1.10 Guba Motka (69°40'N., 32°08'E.), entered between Mys Motka and a point 2.5 miles W, extends 5 miles N between Poluostrov Rybachiy and Poluostrov Sredniy. Mys Roka-Pakhta lies on the E side of Guba Motka, 2.8 miles within the entrance. Anchorage can be taken N of Mys Roka-Pakhta in a depth of 28m, about 0.4 mile offshore.

Bukhta Ozerko (69°44'N., 32°08'E.), 2.2 miles long and having the appearance of an oval lake, is entered from the N end of Guba Motka through a narrow strait between Mys Larina, to the E, and Mys Litke, to the W. A spit, with a depth of 1.2m at its outer end, extends about 0.2 mile WNW from Mys Larina. A spit, covered with boulders, extends 0.2 mile NE from Mys Litke and a beacon stands near the outer end. Range beacons, bearing about 356°, indicate the fairway leading through the passage into Bukhta Ozerko.

Anchorage in Bukhta Ozerko is best obtained 0.4 mile N of the beacon on the W side of the entrance, in a depth of 20m, good holding ground. A small fishing village is situated on the E shore, N of Mys Larina. Bukhta Ozerko is ice-bound during severe winters.

1.11 Mys Vyyev-Navolok (69°27'N., 33°04'E.), the S entrance point of Motovskiy Zaliv and also the W entrance point of Guba Ura, is comparatively steep. It appears from the E as a group of islets and from the W as a distinct salient point. Some drying rocks lie about 0.2 mile NE of the point. A light and a radiobeacon are situated on the point.

From Mys Vyyev-Navolok, the coast trends W for 2 miles forming the N end of a peninsula which separates Guba Ura, on its E side, from Guba Ara, on its W side. Ostrov Bol'shoy Arskiy, a low and barren island, lies in the middle of the entrance to Guba Ara. The NE end of the island is marked by a beacon. Two coves on the W side of Guba Ara, about 1.5 miles within the entrance, afford anchorage in depths of 37 to 46m.

Ostrova Vichany (69°29'N., 32°39'E.), consisting of two islands and two above-water rocks, is located on the E side of the entrance to Guba Vichany. A beacon marks the S end of the W side of Ostrova Vichany. Because of the considerable depths in Guba Vichany, there is no convenient anchorage.

Ostrov Blyudtse (69°30'N., 32°38'E.), a low, bare, and white saucer-shaped islet, lies 0.5 mile NW of Ostrova Vichany. It is

bordered by drying rocks for a distance of about 100m. This islet, marked by a beacon, is very conspicuous because of its shape and color.

Ostrov Kuvshin (69°30'N., 32°32'E.) lies 2 miles WNW of Ostrov Blyudtse and has high, rocky, and steep shores. Its N extremity is marked by a light.

Guba Zapadnaya Litsa (69°29'N., 32°30'E.) is entered, by vessels of deep draft, between Ostrov Kuvshin and a point 0.5 mile S. This bay, 7 miles long, is a winding, much indented inlet with the width varying from 0.2 to 0.5 mile. A reef, with a depth of 5m, extends a little more than 0.5 mile NNE from the E entrance point. Owing to its great depths, Guba Zapadnaya Litsa does not afford good anchorage. The inlet freezes from the vicinity of Ostrova Lopatkina to the head from February to early May.

Ostrova Lopatkina consists of two high islands lying close to the SE shore of the inlet, 3.8 miles SW of the entrance. A light is shown at the N end of the NE island. Anchorage is available in the middle of a cove SE of the S island, in a depth of 30m, off a remarkable cliff on the SW shore.

Mys Pikshuyev (69°33'N., 32°27'E.) lies 3.8 miles NW of the entrance to Guba Zapadnaya Litsa. The point is low, sloping, and fronted by gray granite. A light is shown from the point and some prominent buildings stand on it.

Ostrovok Mogil'nyy, a 10m high islet, lies at the E side of the entrance to Guba Titovka, 6.8 miles WNW of Mys Pikshuyev. The passage S of the islet is shallow.

1.12 Guba Titovka (69°35'N., 32°04'E.) indents the SW shore of Motovskiy Zaliv for a distance of 3 miles. The bay has an average width of about 0.8 mile and depths of up to 92m. Both shores of the bay consist of high, gray granite cliffs. An isolated rocky patch, with a depth of 18.2m, and another, with a depth of 6.4m, lie 0.5 mile N and 0.5 mile SW, respectively, of Ostrovok Mogil'nyy at the E side of the entrance. Two islands lie on the W side of the entrance and are joined to the mainland by a shallow, impassable reef and to each other by a reef over which there is a passage with a depth of 3m.

Vessels of moderate size can anchor midway between the S side of Mys Lisiy and the drying bank at the head of Guba Titovka, in depths of up to 46m. Such vessels can also anchor in the SE corner of the inlet in a depth of 35m.

Guba Kutovaya (69°37'N., 32°01'E.), which forms the head of Motovskiy Zaliv, is entered between a point on the mainland, 2.5 miles NW of Ostrovok Mogil'nyy, and the W entrance point of Guba Motka, 2 miles N. The shores of the bay are high, but slope gradually to the water's edge and are covered with tundra. A village stands on the W side of a small promontory on the S shore of the bay. Anchorage may be obtained 0.4 mile N of the village in a depth of 27m, but the bay is subject to strong squalls. Small craft may anchor off the S shore.

Guba Ura

1.13 Guba Ura (69°26'N., 33°05'E.), an extensive inlet, is entered between Mys Vyyev-Navolok and Mys Medvezhiy, 5 miles ESE. This inlet indents the mainland coast for 12 miles, first SW and then S, and has the identical characteristics of the inlets leading from Motovskiy Zaliv. Its shores consist of high,

steep granite hills which are bare at sea level, but are covered with tundra and white moss at higher elevations. Guba Ura freezes from Ostrov Shalim to its head from February to the end of April.

The entrance of Guba Ura is divided into two arms by Ostrov Yeretik and Ostrov Shalim, the W arm being the deeper and wider. With the exception of the reef lying off Mys Vyyev-Navolok and the drying rocks off the SW tip of Ostrov Shalim, the W arm has depths of 18 to 253m, is free of dangers, and has steep-to shores. In the E arm, there is a least depth of 18m in the fairway entrance, but the passage between the E side of Ostrov Yeretik and the mainland is encumbered by numerous islets, rocks, and shoals. A light is shown from an islet lying 0.2 mile E of Ostrov Yeretik. In the arm proper, the shores are steep-to and there are depths of 14.6 to 110m. In the narrows, in the S part of the E arm, the fairway has a least depth of 7.9m and a width of only 137m. The passage through the narrows is indicated by range beacons, bearing 238°, which are situated at the W side of the islet. A light is shown from Ostrov Zelenyy at the head of Ura Guba, S of the range line.

Port Vladimir (69°25'N., 33°09'E.) (World Port Index No. 63010), a small and sheltered basin on the E side of Ostrov Shalim, is entered between the SW end of Ostrov Yeretik and a point 0.1 mile SW. Except in severe winters, the port is free of ice throughout the year. Small vessels can obtain excellent anchorage in the middle of the port, in depths of up to 20m. A mooring buoy is situated about 0.5 mile S of the S entrance point of the port. A fish factory stands in the port and is fronted by a number of quays.

Guba Ura to Kol'skiy Zaliv

1.14 Mys Pogan-Navolok (69°25′N., 33°26′E.), 2.8 miles ESE of a Mys Medvezhiy, is a prominent, dark-colored granite headland which slopes gradually to the sea. It is the N termination of a peninsula, the S part of which is low, causing it to appear as an island when seen from E to W. Ostrovki Korelinskiye consists of two islets lying close W of the point; the E and larger islet is 43m high.

Between Mys Voriy, 1 mile E of Mys Medvezhiy, and Mys Pogan-Navolok, there is a bay, of which the W part forms Guba Vor'ya and the E part forms Guba Korelinskaya. Anchorage may be obtained in the entrance to Guba Vor'ya in a depth of 13m, but N winds raise a heavy sea here. Guba Korelinskaya affords anchorage in a depth of 12m midway between the E islet of Ostrovki Korelinskiye and the S shore of the bay. Small vessels, with local knowledge, can anchor between the S extremity of the E islet of Ostrovki Korelinskiye and the E shore of the bay.

Mys Set-Navolok (69°24'N., 33°30'E.), on the W side of the approach to Kol'skiy Zaliv, is prominent from NW and N. A light and a radiobeacon are situated on the point and a large aerial dish stands nearby.

Mys Pushka, 1.5 miles SSW of Mys Set-Navolok, is a bare, red cliff. There are caves in the cliff into which the sea enters with great force, producing a noise resembling gunfire.

Mys Lodeynyy (69°22′N., 33°29′E.), from which a light is shown, lies 1 mile SSW of Mys Pushka. Guba Lodeynaya is entered between the points. The bay is steep-to and has depths

too deep to afford good anchorage. A shoal, with a depth of 14.6m, lies 1.5 miles SE of Mys Lodeynyy.

Ostrov Toros, the W entrance point of Kol'skiy Zaliv, lies 3 miles S of Mys Lodeynyy. A light is shown from this island.

Kol'skiy Zaliv

1.15 Kol'skiy Zaliv (69°10'N., 33°30'E.) is entered 6 miles S of Mys Set-Navolok between Ostrov Toros and Mys Letinskiy, 2 miles ESE. The inlet is divided into three reaches. The N reach extends from the entrance to Ostrovok Shurinov, 9 miles S; the middle reach then extends to Mys Mishchukov, 12 miles SW; and the S reach then extends 12 miles to the head. Port Murmansk is situated within the S reach about 25 miles from the entrance. The reaches are indicated by ranges.

Ice.—The N part of Kol'skiy Zaliv as far S as Ostrov Sal'nyy never freezes over, though ice is formed along the shores from December to April. This ice breaks away and is carried out to sea. A break up in the rivers may discharge ice into the inlet as late as May. Generally, the port of Murmansk remains open all year.

Tides—Currents.—The tides in Kol'skiy Zaliv rise about 3.7m at springs and 3m at neaps.

In the N part of Kol'skiy Zaliv as far as Ostrov Sal'nyy there is a constant outgoing current with a rate of up to 1 knot. South of Mys Velikiy, some flood current is felt, but it seldom exceeds 0.5 knot. The normal tidal currents become established in the S reach of the inlet where the ebb current attains a rate of up to 2.5 knots off Mys Lagernyy and up to 5 knots off Kola. The flood current attains a rate of up to 2 knots off Mys Lagernyy and up to 4.5 knots off Kola.

Depths—Limitations.—The least charted depth along the recommended route of the N reach of Kol'skiy Zaliv is 47m in the inbound shipping lane, and 97m in the outbound lane. The middle reach has a least charted depth of 31m in the recommended inbound lane, and 15m in the outbound lane. The S reach, which lies within the commercial limits of Murmansk, has a least depth of 14m in the recommended inbound lane, and 15.4m in the outbound lane. For further information, see paragraph 1.21 for the port of Murmansk.

Pilotage.—Pilotage is compulsory for foreign vessels entering Murmansk. An ETA should be sent through INFLOT 12 days, 4 days, and 12 hours prior to arrival. Petroleum, chemical, and gas carriers must send an ETA 14 days, 3 days, and 12 hours before arrival.

A request for pilotage must be sent through INFLOT, with an ETA, 24 hours in advance and must be confirmed 8 hours prior to arrival. Vessels leaving the port must request a pilot through INFLOT 6 hours before departure, confirming it 2 hours before sailing. Pilots may be contacted on VHF channel 16. All vessels navigating or at anchor within Kol'skiy Zaliv must keep watch on VHF channel 16.

On arrival, vessels should obtain permission to enter Kol'skiy Zaliv from the signal station on Ostrov Toros by hoisting their international code letters by day or sending their call sign in Morse Code by light at night.

The pilot is embarked off the entrance to Guba Kislaya (69°12'N., 33°32'E.). Depths off the pilot boarding place are too deep for anchoring. However, if the sea is too rough,

vessels should follow the pilot boat and embark the pilot S of Ostrov Sal'nyy (69°08'N., 33°28'E.).

Regulations.—A Traffic Separation Scheme is established in the approach to Kol'skiy Zaliv.

Recommended tracks, shown on the chart, lead from N into traffic lanes, which lead to a Precautionary Area fronting the entrance to Kol'skiy Zaliv. The inbound track lies W of the outbound track. A roundabout is situated in this Precautionary Area and Kol'skiy lighted buoy is moored at its center, 4 miles SSE of Mys Set-Navolok.

Recommended tracks lead from E and NE into traffic lanes which lead to a roundabout situated 6.2 miles ENE of Mys Set-Navolok. The inbound tracks lie N of the outbound tracks. Traffic lanes lead from the roundabout to the Precautionary Area fronting the entrance.

Inshore traffic zones are established between the traffic lanes and the coast on the W and SE sides of the scheme.

Vessels entering Kol'skiy Zaliv give way to vessels leaving the inlet.

Separate tracks, shown on the chart, have been established through Kol'skiy Zaliv for inbound and outbound vessels. They lead from the Precautionary Area as far as Port Murmansk. The inbound track lies to the W of the outbound track.

Waiting areas, the limits of which are shown on the chart, lie centered 3.5 miles NW and 5.5 miles NE of Mys Set-Navolok. When using these areas, care should be taken not to enter the area S of 69°25'N and W of 33°50'E.

Vessel speed limits are in force in Kol'skiy Zaliv. Between Mys Letinskiy and the N end of Ostrov Sal'nyy, the speed limit is 14 knots, then to Mys Pinagoriy, vessels must not exceed a speed of 10 knots, then to the S, a limit of 6 knots is enforced.

Directions.—The Northern Sea Route extends from Murmansk and Arkhangelsk to Vladivostok on the Japan Sea. The route is generally open to navigation from the end of July to the end of October; the dates varying with the prevailing ice conditions. Pilotage is compulsory and icebreaker service available. It is reported that all year round navigation, except for the period of May through June when the river ice is going out, has been made possible with icebreaker service, along the W part of the route as far as Dudinka (69°24'N., 86°10'E.) (see paragraph 5.38).

Caution.—A formerly mined area lies in the approaches to Kol'skiy Zaliv NW of Ostrov Kil'din.

In Kol'skiy Zaliv, dense "frost smoke" sometimes occurs during S and SE winds and especially with a fall in temperature. If the inlet does not freeze when the temperature is low, due to spring tides or other causes, a dense fog occurs in the vicinity of Murmansk and a less dense fog occurs throughout the whole inlet.

Several submarine cables lie in the approaches to the inlet and are indicated on the chart.

Several areas, in which navigation is prohibited or in which anchoring and fishing are prohibited, lie within the inlet and the approaches and may best be seen on the chart.

The Traffic Separation Scheme has not been adopted by the IMO. However, it has been made mandatory by the Russian authorities in the interest of safe navigation. Rule 10 of The International Regulations for Preventing Collisions at Sea (1972) applies.

Vessels are advised to obtain local charts of the area for passage through Kol'skiy Zaliv.

Local magnetic anomalies exist within Kol'skiy Zaliv.

1.16 Ostrov Toros (69°18'N., 33°28'E.), the W entrance point of the reach, is 77m high and dark in color. A light is shown from the E side of the island and two islets lie off the NE side. A signal station is situated on the island.

Between Ostrov Toros and Mys Chevruy, 3 miles S, the W side of Kol'skiy Zaliv is rugged with a number of islets, rocks, and shoals lying offshore. Banka Malaya Voronukha, 0.8 mile S of the S extremity of Ostrov Toros, is a flat reef which dries and is steep-to on its N side. Lighted buoys are moored on the N, E, and W sides of this reef. A number of islets, rocks, and shoals lie S and W of the above lighted buoys and can best be seen on the chart.

A detached shoal, with a least depth of 10.8m, lies midway between Ostrov Toros and Banka Malaya Voronukha, and another detached shoal, with a least depth of 12.2m, lies 0.4 mile ESE of the reef.

Ostrov Sedlovatyy (69°15'N., 33°28'E.) lies off Mys Chevruy, 3 miles S of the E extremity of Ostrov Toros. The island is 21m high and saddle-shaped, having two gray hillocks and a steep and dark-colored coast. A light is shown on the N hillock of the island. There is a landing stage for boats on the W side of the island.

Guba Sayda (69°16'N., 33°23'E.) is the largest of the branches of Kol'skiy Zaliv. Three channels lead to the entrance which is 300m wide and located 2 miles SW of the S end of Ostrov Toros. Large vessels should use the N channel which leads between the S end of Ostrov Toros and Banka Malaya Voronukha. The shores of the entrance are high and steep.

The tidal currents in the entrance attain a rate of 1 to 1.5 knots. Mariners should use care when entering Guba Sayda due to the lack of up-to-date information.

Only small vessels, with local knowledge, can anchor in Guba Sayda because of the limited space where depths are suitable for anchoring. Guba Sayda freezes from the end of October to the end of April.

1.17 Guba Olen'ya (69°13'N., 33°25'E.), encompassing an industrial area, is entered 1.2 miles SSE of Mys Chevruy. The shore between consists of bare, steep granite rocks and a number of small coves. On the S side of the approach to Guba Olen'ya is a group of islands and islets, the largest of which is Ostrov Yekaterininskiy. Yekaterininskiy Vostochnyy Light is shown from Ostrov Yekaterininskiy.

Guba Olen'ya extends 3.5 miles W from the NW end of Ostrov Yekaterininskiy, but is too deep near the entrance and too narrow within to afford good anchorage. Guba Olen'ya lies within Regulated Area No. 18, into which entry is prohibited.

Ostrova Bol'shoy Oleniy (69°14′N., 33°29′E.), lying close off the NE side of Ostrov Yekaterininskiy, is composed of gray granite hills, with those in the N part being steep. A light is shown from the N extremity of the island.

Caution.—Navigation is prohibited W of a line between Ostrov Sedlovatyy and the light on Ostrova Bol'shoy Oleniy.

Mys Gavanskiy (69°12'N., 33°30'E.), a bare granite projection, is located 1.8 miles S of Ostrova Bol'shoy Oleniy Light.

Between Mys Gavanskiy and Mys Las, 2.5 miles SW, the shore is fairly high and steep, and indented by four coves. At the head of each of these coves, the land slopes gently and is covered with bushes. Drying reefs and several islets front this stretch of the shore.

Ostrovok Brandvakhta, 0.8 mile S of Mys Gavanskiy, lies near the edge of a shallow rocky bank which extends 0.2 mile offshore. This islet resembles a dark-colored hillock with steep slopes and has a black streak running down its side. In clear weather, it can be identified from the entrance to Kol'skiy Zaliv. A light is shown from the islet and a lighted buoy is moored close S of the light.

Guba Kislaya, a cove, is located 0.2 mile W of Ostrovok Brandvakhta. Pilots board in the fairway adjacent to Guba Kislaya.

Ostrovki Severnyye Goryachinskiye, two bare granite islets lying close together, are located 0.5 mile SSW of Ostrovok Brandvakhta. They are steep-to on the E side, but the passage between them and the mainland is foul.

Ostrovok Shurinov (69°10'N., 33°30'E.), 0.2 mile long and marked by a light, lies 0.2 mile NE of Mys Las. A reef, which partly dries, extends 0.4 mile NE from the islet. A lighted buoy is moored 0.7 mile NE of the islet and marks the E side of a rocky shoal with a depth of 9.2m. A lighted buoy also marks the SE end of the spit, upon which Ostrovok Shurinov lies, and the SE end of the drying reef surrounding the island. The passage between the islet and Mys Las can be used by vessels with drafts not exceeding 4.9m.

1.18 Mys Letinskiy (69°18'N., 33°35'E.), the E entrance point of the N reach, lies 2 miles ESE of Ostrov Toros. It is the NW extremity of a peninsula which is formed by granite hills and attains an elevation of 245m, 1.2 miles SSE of the point. A light is shown from a tower standing 0.2 mile ESE of the point. A bank, with a least depth of 11.4m and over which the sea breaks in bad weather, lies 0.2 mile NNW of the point.

Guba Bol'shaya Volokovaya (69°16′N., 33°36′E.) is entered 2.8 miles S of Mys Letinskiy between a point, which shows a light, and another point, 0.3 mile S. The inlet consists of high and steep granite shores with cliffs on the NW side. A hilly promontory projects from the head of the inlet, dividing it into two coves, both of which dry. Between Mys Letinskiy and Guba Bol'shaya Volokovaya, the coast is steep and precipitous in places.

Guba Tyuva (69°12'N., 33°35'E.) is entered 3 miles S of Guba Bol'shaya Volokovaya. The coast between is high and steep with a reddish color. There are no indentations other than small coves. Two islets lie close off the shore, 0.8 mile N of the entrance to the inlet. Guba Tyuva extends SE for 2 miles and its shores are steep and covered with trees, except near the entrance. The inner part dries, except for a narrow and shallow channel leading to the head. A small jetty is situated on the NE side of the inlet. Anchorage may be obtained in the outer part in depths of 22 to 33m. Local knowledge is required.

Guba Srednyaya (69°09'N., 33°34'E.) is entered between Mys Sampo-Navolok, 2.5 miles S of the entrance to Guba Tyuva, and the E extremity of Mys Chirkovyy, 0.2 mile WSW. The entrance is obstructed by a shallow bar over which the sea breaks during strong N winds.

1.19 Between Mys Chirkovyy and Mys Karbas, 3.8 miles SW, the shore is indented by a bight. Mys Sal'nyy, the S entrance point of this bight, is located 1 mile NNE of Mys Karbas and is marked by a light. A light is also shown from Mys Karbas. Mys Chirkovyy lighted range consists of three lights, aligned 177°48', and is shown from the head of the N reach.

Ostrov Sal'nyy (69°08'N., 33°28'E.) lies 0.5 mile N of Mys Sal'nyy and in the middle of the channel. It is formed of gray granite and is moss-covered. A light is shown from the summit of this island. Banka Sal'nyy lies 0.5 mile SW of the light. This bank has a least depth of 9.5m and is marked by a lighted buoy.

Between Mys Karbas and Mys Shavor, about 2.5 miles SW, the coast recedes to form two bights which are separated by Mys Alysh, a rocky point. Guba Vayenga lies E and Guba Varlamova lies W of the point. The town and the Russian Federation Naval Base of Severomorsk stand close S of Mys Alysh. Both of these bays lie within Regulated Area No. 21 into which entry is prohibited.

Between Mys Nikitina, 1 mile SW of Mys Shavor, and Mys Mokhnatkin, 3 miles WSW, the shore is indented by three partially drying bays. Two of the bays are closed to navigation and the easternmost is marked by a lighted buoy. Small vessels can obtain anchorage off the entrances to these bays. A light is shown from Mys Mokhnatkin. Mys Pinagoriy lies 1.8 miles SW of Mys Mokhnatkin.

1.20 Guba Pit'kova (69°09'N., 33°25'E.), a cove indenting the N shore of the middle reach, lies 1.5 miles SW of Mys Las. The village of Platonovka stands at the head of this cove. Rocks, which dry, lie on the bank extending from the SW entrance point. Several mooring buoys are located off the cove.

Mys Retinskiy (69°07'N., 33°24'E.), from which a light is shown, lies 1.5 miles SSW of the S entrance point of Guba Pit'kova. Although the extremity and sides of Mys Retinskiy are not high, the point is conspicuous and steep-to. Between Mys Retinskiy and Mys Velikiy, 3 miles SW, the shore is indented by several coves. Drying shoals, on which rocks lie, border this entire stretch of shore for a width of 0.1 mile.

Lighted beacons stand close W of Mys Retinskiy and in the vicinity of Mys Filinskiy, 1.5 miles SW.

Mys Belokamennyy (69°05'N., 33°11'E.) is prominent to inbound vessels and is marked by a light. Mys Kondratkina lies 0.8 mile W of Mys Belokamennyy and a shoal, marked by a lighted buoy, extends 0.2 mile S of the point. From Mys Kondratkina, the shore trends WSW for 2 miles and then turns sharply S to Mys Mishchukov.

Caution.—A seaplane operating area lies between Mys Velikiy and Mys Belokamennyy.

The S reach extends 10 miles S from its entrance points, Mys Mishchukov on the W side and Mys Pinagoriy on the E side, to Kola near the head of the reach. Both shores of the reach are fringed by drying shoals extending nearly 0.5 mile abreast the bays and nearly 0.6 mile from the E shore just NE of Kola. The town of Murmansk stands 3.5 miles within the reach on the E side.

Mys Mishchukov (69°03'N., 33°02'E.), which shows a light, is the W entrance point of the reach. The point is low, but

conspicuous more to N bound traffic than to those proceeding S. The point should not be passed closer than 300m as it is bordered by a narrow shoal which is marked by a lighted buoy. Gora Mishchukov, 351m high and prominent, stands 1.8 miles NW of the point.

Lighted buoys moored about 1 mile and 1.2 miles S of the point mark the edge of the shorebank on the W side of the channel.

Mys Pinagoriy, the E entrance point of the S reach, is a high, precipitous cape descending W to a small, low point which is comparatively steep-to. The width of the reach at this point is about 0.8 mile, with depths of 18 to 40m.

Banka Anna-Korga, on the W side of the reach 2.5 miles S of Mys Mishchukov, is a rocky shoal which dries and is covered by weed. A lighted beacon stands on the bank.

Mys Abram (68°59'N., 33°02'E.), at the foot of a hill, is low and difficult to identify. A quay and a pier, which can accommodate vessels of up to 6m draft, are situated close S of the point. A lighted buoy is moored close SSE of the pierhead and marks a projection of the coastal bank.

Mys Zelenyy (69°00'N., 33°03'E.) is located 3.5 miles S of Mys Pinagoriy on the E side of the reach. This point is easily identified and lies at the foot of a steep slope on the side of a ridge of hills which rises to a height 135m. A prominent monument, 37m high, stands at an elevation of 169m, about 0.5 mile E of the point. Portovyy Light No. 7 is shown from the point.

Murmansk (68°59'N., 33°03'E.)

World Port Index No. 62950

1.21 The port of Murmansk is the largest commercial harbor and fishing port in the Barents Sea. The port is situated between Mys Pinagoriy and Mys Gorelyy, 7.5 miles S. Several shipyards are also situated in this vicinity.

Winds—Weather.—Moderate gales can be expected from two to four days each month throughout the year. The period from November to February is considered the most violent season of the year. The prevailing winds are from the W and SW, except during the period from May to August when the winds are N and NE. Fog during the period of January to April makes navigation difficult and sometimes impossible for a few days at a time.

Ice.—Near the port, ice generally forms at the beginning of January and attains its maximum thickness by the end of February, disappearing by the middle of April. The ice does not generally interfere with shipping, but when it does icebreakers are employed. Ice appears for a few days in May when the ice breakup occurs in the local rivers.

Tides—Currents.—The tides at the port rise about 3.3m at springs and 2.8m at neaps.

Depths—Limitations.—The commercial port of Murmansk provides 3,000m of total quayage. There 20 berths, 32 to 265m long, with depths of 4.5 to 13m alongside. There are facilities for general cargo, passenger, container, bulk, timber, and tanker vessels. Vessels up to 300m in length and 13m draft can be accommodated.

There are three floating dry docks within the port. The largest is 225m long and 36m wide. It can handle vessels up to 30,000 tons, 200m in length, and 28m beam.

Pilotage.—For information concerning pilotage and associated regulations, see Kol'skiy Zaliv (paragraph 1.15).

Regulations.—A mandatory vessel traffic control service, Service for Controlling Ship Movements (SUDS), with full radar surveillance is maintained S of Mys Mishchukov (69°02'36"N., 33°02'00"E.). Permission from SUDS is required prior to port entry.

Masters of nuclear powered vessels are required to give prior notice to the port authorities regarding the condition of the vessel and associated certification of equipment and personnel.

Anchorage.—Good holding ground may be obtained anywhere in the N part of the S reach except in the vicinity of the submarine cables and prohibited areas. However, vessels should avoid parts of the middle of the reach where depths are considerable. Vessels can anchor in depths of 15 to 30m to the W of Kiyevarakskiy range line. Anchoring on or to the E of this range line is prohibited.

All anchorage berths are allocated by SUDS.

Caution.—Numerous mooring buoys are situated within the harbor.

Occasionally, cargo work is stopped due to exceptionally low temperatures during the winter.

1.22 The head of Kol'skiy Zaliv above Murmansk gradually narrows from a width of about 0.5 mile at Mys Lagernyy (68°56'N., 33°01'E.) to 0.1 mile at Kola, 4.5 miles S. The entire head of the inlet is encumbered by drying shoals through which a tortuous channel leads with a maximum depth in the fairway of 2.1m. Range beacons guide small craft through the fairway which should not be attempted without local knowledge.

Kola (68°52'N., 33°01'E.), an ancient village, stands near the head of Kol'skiy Zaliv, about 5 miles S of Murmansk. The tidal currents off Kola are very strong with the outgoing current attaining a rate of 5.5 knots and the incoming current a rate of 4.5 knots. Small vessels can obtain anchorage in the mouth of a river, W of Kola. The village has a white church, with a green roof, which can be seen from the N end of the S reach.

Kol'skiy Zaliv to Ostrov Kil'din

1.23 Between Mys Letinskiy and Mys Svyatoy Nos, 152 miles ESE, the E part of Murmanskiy Bereg consists of gray, granite cliffs, some of which are tinted red and black in places. The coast is indented by small coves and the mouths of many streams. Several islands and islets lie close offshore. The coast is mostly steep-to except off the entrances to many of the coves and inlets.

Guba Malaya Volokovaya (69°17'N., 33°40'E.), entered 2 miles E of Mys Letinskiy, has high, steep shores on both sides. A defile, which extends SSW from its head, can be seen from NE for a distance of 10 miles. Volokovyye Korgi, comprising an islet and some drying rocks, lies on a reef which extends 0.4 mile NE from the W entrance point of Guba Malaya Volokovaya. A set of lighted beacons, bearing 221°45' in line, leads into Guba Malaya Volokovaya.

Between Mys Zelenetskiy, 3.5 miles E of Mys Letinskiy, and Mys Chernyy, 1.8 miles E, the coast is indented by a bay.

Guba Zelenetskaya Zapadnaya extends 2.5 miles SW from the W part of the bay and Guba Dolgaya Zapadnaya extends 2.5 miles SSE from the E part of the bay. Mys Dolgiy, which separates the two bays, is a granite point rising in stone terraces. Mys Zelenetskiy appears as a low, reddish hill and Mys Chernyy, from which a light is shown, is composed of dark rock. It is reported that a prominent house and a large dish aerial stand on Mys Zelenetskiy.

Guba Zelenetskaya Zapadnaya (69°18'N., 33°45'E.) is bordered by a reef on its W side, at the entrance. A number of islets lie on this reef. There are also several islets near the head of the bay which are connected to the W shore by a drying shoal. Depths in the bay are too great for a secure anchorage, but vessels requiring a berth no more than 0.1 mile in diameter may anchor, in depths of 12.8 to 18m, SW of the southernmost inlet lying off the W entrance point.

Guba Dolgaya Zapadnaya (69°18'N., 33°49'E.), from a width of about 0.2 mile at its midpoint, branches into two inlets at its head. The shores of this bay are low and formed of granite. They are sloping at the entrance, but steep in the narrow part.

Ostrovok Chayachiy lies in the middle of the bay entrance and is connected to a point on the S side by a reef with a least depth of 5.5m. This islet is 17m high, bare, and is marked by a light. An above-water rock lies on the reef. A range, bearing 152°42', indicates the fairway channel leading through the entrance of the bay.

Ostrov Kil'din and Kil'dinskiy Proliv

1.24 Ostrov Kil'din (69°21'N., 34°11'E.), the largest island off Murmanskiy Bereg, lies with Mys Byk (69°21'N., 33°58'E.), its W extremity, located 9 miles ENE of Mys Letinskiy. The island is 9.2 miles long, 4.5 miles wide at its broadest part, and is separated from the mainland on the S side by Kil'dinskiy Proliv. The slate composition of the island is conspicuous in contrast to the gray granite of the mainland. Mys Byk is 288m high with its upper part being sheer. A light is shown from a structure standing on a point about 0.5 mile SE of Mys Byk.

Caution.—Restricted Area No. 125, into which entry is prohibited, lies 3 miles W of Ostrov Kil'din.

Utes Likhoy (69°23'N., 34°03'E.), 181m high, is precipitous and prominent. The NW coast of the island between Mys Byk and Utes Likhoy consists of high cliffs. This coast is fringed by shallow water and rocks which extend up to 0.2 mile offshore. The N coast of the island E of Utes Likhoy also consists of high cliffs, which begin to descend in height toward the E end.

Kil'dinskiy Severnyy Light (69°23'N., 34°09'E.) is shown from a tower, 19m high, standing 2 miles E of Utes Likhoy. A radiobeacon is situated at the light. A beacon stands on the summit of a hill, 2.2 miles SSE of the light.

An unlighted beacon, 28m high, stands at the E end of Ostrov Kil'din. Kamni Sunduki, a group of rocks lying on the foreshore near the E end of the island, is conspicuous against the background of the coast.

Kil'dinskiy Proliv (69°19'N., 34°00'E.) is entered from the W between Mys Byk and Mys Toporkova Pakhta, 1.5 miles SSW. It is entered from the E between the SE extremity of Ostrov Kil'din and Mys Chevray, 1.8 miles S. The strait is deep in the fairway except for Kil'dinskaya Banka, with a depth of 11m, which lies in the middle of the strait just within the W entrance.

The E tidal current attains a spring rate of nearly 1 knot in the W part of the strait, 3.2 knots in the middle of the narrows, and about 0.8 knot in the E part of the strait. The W tidal current has a spring rate of 0.8 knot in the W part of the strait, over 3 knots in the middle of the narrows, and 0.8 knot in the E part of the strait. In the narrows, the rate sometimes reaches 5 knots.

The strait never freezes, but during the winter, ice is carried through it by the tidal currents and sometimes the narrows become blocked.

Abnormal magnetic variations have been experienced in the strait.

1.25 Bukhta Ruch'i (69°18'N., 34°05'E.) indents the coast for 0.5 mile, 3 miles E of Mys Toporkova Pakhta. The head of the bay, where there is a fishing village, consists of a sandy shoal which dries. A beacon is situated on the W entrance point of Bukhta Ruch'i. Vessels can anchor in a depth of 17m, sand, guided by ranges. On the S shore of the bay, a rock, painted red and white, in range 186° with a beacon indicates the channel leading into the anchorage. The anchorage is also indicated by beacons of heaped stones standing on the E shore. These beacons, in range 104°, intersect the first range at the best anchorage.

Ostrov Malyy Kil'din (69°18'N., 34°09'E.), a small and rocky islet marked on its summit by a light, lies close off the S shore about 4.5 miles E of Mys Toporkova Pakhta. The passage lying between this islet and Mys Prigonnyy, close NE, forms the narrows of the strait. A light is shown from Mys Prigonnyy.

Mys Mogil'nyy (69°19'N., 34°21'E.), located 3.5 miles E of Mys Prigonnyy, is the extremity of a low promontory of sand and stone, which projects SW from the coast of Ostrov Kil'din. A light is shown from the point. Bukhta Mogil'naya is entered close NW of Mys Mogil'nay. A village stands at the head of this bay.

The best anchorage in Kil'dinskiy Proliv lies in the middle of Bukhta Mogil'naya, in a depth of 22m, with good holding ground and sheltered from all winds. There is also good anchorage to the W of the above bay in depths of up to 40m, sand and mud.

Mys Chevray (69°17'N., 34°24'E.), located on the S side of the E entrance, is formed by a low, rocky spit which is marked by a light. A submerged reef extends 0.3 mile NE from this point.

Ostrov Kil'din to Mys Teriberskiy

1.26 Between Mys Chevray and Mys Tipunkov, 5.5 miles ESE, the coast is indented by three principal coves. Two islets, joined by a drying reef, lie in the entrance to the middle cove and are connected to the shore on the W side by a reef on which lie several drying rocks. Mys Tipunkov is composed of

bare, reddish granite and is steep-to on its E side. This point is marked by a beacon.

Ostrov Malyy Oleniy (69°15'N., 34°45'E.) lies with its W extremity located 0.5 mile E of Mys Tipunkov. This island is 3.8 miles long, nearly 1 mile wide, and is separated from the mainland by a strait which is 0.2 mile wide at its narrowest part. The island is difficult to distinguish from a distance. Its E end terminates in a low point which is joined to the island by a drying reef. The E end of the island is marked by a light. The island is bisected in a NE/SW direction by a deep defile.

Guba Klimkovka (69°14'N., 34°39'E.) indents the coast 0.5 mile between cliffy shores close S of Mys Tipunkov. The head of this bay is obstructed by a sand bar through which empties a drying lagoon. The Reka Klimkovka flows into the head of the lagoon. Boats can enter the river at high tide.

Between the E entrance point of Guba Klimkovka and Ostrov Bol'shoy Zelenyy, 3.5 miles ESE, the S side of the strait is fringed by numerous islets which are connected to the shore by shallow reefs. However, none of these islets lie farther offshore than 0.2 mile. Two lighted beacons, in range 277°30', stand close S of Mys Tipunkov and lead through the strait.

Ostrovok Stanovoy lies on a reef extending from the S shore of the strait, 1.5 miles ESE of Mys Tipunkov. The fishing village of Malo-Olen'ye stands on the shore of a cove, 0.3 mile SW of this islet. Vessels can anchor off the village in a depth of 37m, sand and shells, with shelter from all winds. The anchorage is sometimes exposed to a swell during strong NW or W winds.

Mys Dolgiy (69°13'N., 35°03'E.) lies 5 miles E of Ostrov Bol'shoy Zelenyy. The coast between is indented by three inlets. Guba Dolgiy, the largest of these inlets, is entered 1.2 miles W of Mys Dolgiy. The shores of this inlet are mostly high and steep, and there is a depth of 9m in the entrance. All three inlets are too exposed to the N winds to afford safe anchorage.

1.27 Mys Teriberskiy (69°15'N., 35°09'E.) is the NW extremity of a high, granite promontory. The point resembles a rounded hill. It is connected to the promontory by a relatively low isthmus and, from a distance, appears as an off-lying islet. A light is shown from a tower, 14m high, standing on the point. A radiobeacon is situated at the light.

Guba Teriberskaya (69°13'N., 35°10'E.), one of the most important bays on Murmanskiy Bereg, is entered between Mys Dolgiy and Mys Teriberskiy, 3.2 miles NE. This bay does not freeze over.

Mys Zhiloy (69°12'N., 35°08'E.) is a low, granite point located 2 miles ESE of Mys Dolgiy. A light is shown from the point and a prominent radio tower stands 2.5 miles SSW of it.

Caution.—Submarine cables lie within Guba Teriberskaya and may best be seen on the chart.

Guba Orlovka forms the E bight of Guba Teriberskaya and from its S side, Guba Zavalishina indents the coast for 0.5 mile. Both of these indentations are free of off-lying dangers. The extreme S part of Guba Teriberskaya, S of Mys Zhiloy, is further indented by two coves, Guba Lodeynaya to the W and Guba Korabel'naya to the E.

Guba Korabel'naya (69°11'N., 35°11'E.), 0.5 mile in diameter, is entered S of Mys Deploranskiy, which lies 1 mile

SE of Mys Zhiloy. A rock, which dries at low tide, lies in the approach to the bay and is marked by a buoy moored on its N side. The depths in the middle of the bay are 2.4 to 7.3m.

Guba Lodeynaya, a small cove, lies 1.2 miles S of Mys Zhiloy. Mys Vos'moy, the S entrance of the cove, is marked by a light. The entrance has depths of 20 to 26m, but shoals rapidly to the W. A village and three piers, which are used by small vessels at HW, are situated on the W side of the cove.

Anchorage.—Vessels may obtain anchorage in the E part of Guba Orlovka, about 0.2 mile from the mouth of a river, in a depth of 14m, sand.

Anchorage can be taken in Guba Zavalishina, about 0.2 mile from either shore, in a depth of 14m.

Small vessels can anchor E of the line joining the entrance points of Guba Lodeynaya, in depths of 35 to 40m. Small vessels can also obtain anchorage off Guba Korabel'naya, 0.1 mile from the N shore, in a depth of 9m.

The only anchorage for larger vessels is at the head of the inner part of Guba Teriberskaya, in a depth of 38m. It should only be used during S winds or calm weather.

Mys Teriberskiy to Sem'ostrovov

1.28 Between Mys Teriberskiy and the W entrance point of Guba Voron'ya, 13 miles ESE, the coast consists of granite bluffs with occasional sloping points of land. The coast, which is steep-to and inaccessible for the most part, is indented by several inlets. A dangerous reef, on which there is a drying rock, extends 0.4 mile NE from the W entrance point of Guba Fedorovka, 1.8 miles WNW of Guba Voron'ya.

Guba Voron'ya (69°12'N., 35°46'E.), 1.5 miles wide at its entrance, is entered W of Mys Voroniy, a steep point. The W side of the bay is fronted by an islet and several drying rocks. The head of the bay is formed by a sandy slope and is fronted by a drying shoal.

The Reka Voron'ya flows over a shallow bar which may be crossed by boats at HW. A number of buildings stand in a cove indenting the W side of Mys Voroniy. Temporary anchorage may be taken about 0.5 mile W of Mys Voroniy in a depth of 26m, but a heavy swell may develop during W winds.

Ostrova Voron'i Ludki (69°12'N., 35°48'E.) is a group of five islets. Ostrov Bol'shoy Voronukhi, the largest islet, lies 0.5 mile N of Mys Voroniy and is marked by a light. Ostrov Baklan, located 0.3 mile SE of Ostrov Bol'shoy Voronukhi, is nearly divided into two parts by a deep cleft. This islet has almost sheer cliffs and is steep-to.

Mys Remyaginskiy (69°11′N., 35°57′E.) lies 1.2 miles ESE of Mys Voroniy. A large above-water rock and a drying rock lie 100m NE and 200m ESE, respectively, of the point.

Guba Kemskaya, entered 0.4 mile W of Mys Remyaginskiy, is shallow and affords no anchorage.

Guba Gavrilovskaya, entered close W of Mys Remyaginskiy, extends 0.5 mile S. The entrance of this bay is narrow and passes between high cliffs. A drying spit extends from the E shore at the entrance. A fishing station, with several landing stages, is situated on the W shore of the bay. Anchorage may be obtained close N of the entrance to the bay in a depth of 31m, stones. The steep point, which separates Guba Kemskaya from Guba Gavrilovskaya, has a wooden cross standing on its summit.

1.29 Ostrova Gavrilovskiye (69°10'N., 35°57'E.), a group of four islands, is located on a reef which lies parallel to and at a distance of 0.2 to 0.8 mile off the coast. Ostrov Bol'shoy Gavrilovskiye, the largest and northernmost island, is 0.8 mile long and 0.2 mile wide. A rocky patch, with a depth of 1.2m, lies 0.1 mile NNW of the N end of this island.

Small vessels can anchor about 150m off the middle of the SW coast of Ostrov Bol'shoy Gavrilovskiye in a depth of 16m, stones.

Guba Podpakhta (69°09'N., 35°56'E.), 0.5 mile long, is entered between Mys Krutik, 2.5 miles SE of Mys Remyaginskiy, and a sheer cliff, 0.5 mile WSW. The head of this bay, where a village stands, is low, sandy, and fronted by a drying shore bank. There is a depth of 14m in the entrance which shoals gradually toward the head.

Small vessels can anchor in the middle of the bay in a depth of 10m, sand. Small craft can anchor in a cove on the W side of the bay, in a depth of 6m, sand and stone.

Ostrov Bol'shoy Gusinets lies 1 mile SE of Mys Krutik and has prominent, steep sides. A rock, awash, lies 0.1 mile off the NE extremity of this island.

Ostrova Malyy Gusintsy, a group of three islets, lies 0.3 mile SE of Ostrov Bol'shoy Gusinets. A rock, which dries, lies 0.2 mile ESE of this group.

Guba Yarnyshnaya (69°07'N., 36°03'E.), a narrow inlet, is 3 miles long. It is entered between a point, located close S of Ostrova Malyy Gusinets, and Mys Yarnyshnyy, 1 mile E. Both entrance points and the outer part of the inlet are steep-sided. Several conspicuous buildings stand close within Mys Yarnyshnyy. Anchorage can be obtained in the outer part of the inlet in depths of up to 27m, sand.

1.30 Mys Dernistyy (69°08'N., 36°05'E.), marked by a beacon, lies 5.5 miles SE of Mys Remyaginskiy. A tall pylon stands 1 mile SW of the beacon.

Guba Zelenetskaya is entered between Mys Dernistyy and Mys Zelenetskiy, 1 mile SE. Ostrova Zelenetskiye consists of a group of five islets, mostly bare, and several above-water rocks. This group occupies a large part of Guba Zelenetskaya. The narrow channels, which lead between the islets, are encumbered with rocks and partly dry. Anchorage can be obtained by small vessels with local knowledge off the S side of the largest islet, in depths of 5 to 14m, sand and mud.

Guba Shel'pinskaya (69°06'N., 36°12'E.) is entered between Mys Pakhta Shel'pinskaya and Mys Glyaden, 1 mile ESE. This bay is much encumbered with groups of low-lying islands, islets, and rocks. Temporary anchorage can be taken by small vessels 300m NNE of Ostrov Savina, the southernmost islet, in a depth of 20m, sand and stones.

Mys Skala (69°05'N., 36°19'E.) is formed by a prominent steep cliff of red granite.

Ostrov Bol'shoy Oleniy (69°04'N., 36°22'E.), about 2.2 miles long and 59m high, lies with its N end located 0.5 mile E of Mys Skala. A light is shown from a tower, 24m high, standing at the NW end of this island. A radiobeacon is situated at the light and two masts stand 1 mile SE of it.

An islet lies close off the E end of the island and rises to a conical summit from which a light is shown. The S coast of the island is steep-to and has no off-lying dangers except for a shoal, with a depth of 11m, which lies 0.4 mile SE of this islet.

Guba Porchnikha (69°05'N., 36°17'E.), 1.2 miles long, is entered between Mys Skala and a point 0.5 mile SW. The head of the bay, which is sandy and strewn with rocks, dries up to 0.5 mile offshore. A settlement stands 0.5 mile W of Mys Skala. An anchorage berth, about 300m in diameter, lies 0.4 mile within the entrance. It has a depth of 29m over a bottom of sand and stones. Small craft can anchor closer to the head of the bay.

Guba Yuzhnaya lies on the W side of the peninsula of which Mys Vostochnyy (69°03'N., 36°22'E.) is the N extremity. The head of this bay dries and is divided into two parts by a tongue of land. Two islets, surrounded by a drying rocky shoal, lie close off the extremity of the tongue of land. A shallow reef lies 0.4 mile N of the E side of Mys Vostochnyy. An isolated shoal patch, with a depth of 8.5m, lies about 0.2 mile NNW of the same point.

1.31 Guba Zakhrebetnaya (69°02'N., 36°26'E.) lies on the W side of a small peninsula. The head of this cove dries and lies at the foot of a valley in which a settlement stands. A drying rock lies in the entrance to the cove which is not suitable for anchorage.

Guba Shcherbinikha (69°02'N., 36°27'E.) lies close E of Guba Zakhrebetnaya and consists of two separate coves. The E cove is shallow and has a rocky entrance. The W cove has depths of up to 11m in its outer part and can be used as for temporary anchorage during S winds.

Guba Tryashchina (69°01'N., 36°32'E.) is entered 2 miles SE of Guba Shcherbinikha. A spit, which dries, extends about 300m NE from the E entrance point. A settlement, with a black house, stands on the SE side of the head of this inlet, 1.5 miles within the entrance. Anchorage can be obtained by vessels of moderate size in depths of 24 to 29m, sand over clay with good holding ground, 0.5 mile within the entrance. Small craft can anchor 0.5 mile farther SW, in the lee of an islet lying close to the SE shore.

Guba Shirokaya and Guba Vyashchina, two small inlets, lie on the W side and 1 mile SSE, respectively, of Mys Malyy Vyaschin (69°00'N., 36°37'E.).

Anchorage can be obtained by vessels with local knowledge, in depths of up to 22m, within a bay which is entered between a point, located 3 miles SE of Mys Malyy Vyaschin, and Mys Kabaki, 1.2 miles SE. A cross stands on the W entrance point. Guba Peschanaya is a cove lying on the E side of Mys Kabaki.

1.32 Guba Rynda (68°56'N., 36°50'E.), lying 2 miles SE of Mys Kabaki, is an open bay. It has rocky and steep shores except at the head, which is low and sandy. A river flows into the head and close within its mouth stands the village of Rynda. The shore close N of the river mouth is fronted by a group of reefs, rocks, and islets which extends up to about 0.8 mile seaward. Ostrov Zelenyy, the southeasternmost islet of this group, is marked on its W side by a beacon. A beacon stands on the E entrance point of Guba Rynda. Vessels of moderate size can anchor about 200m SE of Ostrov Zelenyy, in depths of 16 to 18m.

Guba Zolotaya (68°53'N., 37°03'E.) is entered 5.5 miles SE of the entrance to Guba Rynda. A light is shown from its E entrance point. The shore of the head of this cove is low, sandy, and conspicuous in clear weather because of its golden color. A

river empties into the head and settlements stand on each bank. Vessels can anchor in a depth of 26m about 140m ESE of an islet which lies off the NW entrance point of the cove. Vessels can also anchor in a depth of 22m about 0.2 mile SSE of this islet.

Sem' Ostrovov

1.33 Sem' Ostrovov (68°48'N., 37°26'E.), a group consisting of seven islands and several islets, fronts the coast between Mys Chegodayev (68°50'N., 37°11'E.) and Mys Plekhanov, 10.5 miles SE. This group extends 0.8 mile to 2 miles offshore. The anchorage roadstead, known as Semiostrovskiy Reyd, lies between this group and the mainland coast.

Ostrov Kharlov (68°49'N., 37°20'E.), the largest and westernmost of the islands in the group, lies 3 miles ESE of Mys Chegodayev. A light is shown from a tower, 11m high, standing near the middle of the island. A radiobeacon is situated at the light.

Ostrovki Kharlovskiye Baklyshi, a group consisting of three bare rocky islets and three drying rocks, lies 0.4 mile E of the SE extremity of Ostrov Kharlov. The tallest islet of this group is 9m high and surrounded by foul ground.

Ostrov Bol'shoy Zelenets lies 1 mile SE of the SE extremity of Ostrov Kharlov. This island is 48m high and can be easily identified against the gray background of the mainland. Ostrov Malyy Zelenets lies 300m SE of Ostrov Bol'shoy Zelenets and is 29m high.

Ostrov Veshnyak (68°46'N., 37°30'E.) lies 0.5 mile SE of Ostrov Malyy Zelenets and appears as two islands. A prominent cross stands on the NW extremity of this island. A beacon stands on the SE side of the island, but has been reported to be missing. The passage leading between Ostrov Veshnyak and Otrov Malyytenets has a depth of 6.7m.

Ostrov Kuvshin (68°44'N., 37°32'E.), marked by a light, lies 1.2 miles S of the SE extremity of Ostrov Veshnyak. The seaward side of this island is very steep and can be easily identified. Several drying rocks lie close SE of the island.

Semiostrovskiy Reyd (68°47'N., 37°25'E.) is entered from the NW between the E entrance point of Guba Shirokaya and the SW extremity of Ostrov Kharlov, 1 mile ENE. The SE entrance lies between Ostrov Veshnyak and Ostrov Kuvshin. The four outer islands of Sem' Ostrovov form the NE side of this roadstead.

1.34 Reka Kharlovka (68°49'N., 37°20'E.) enters the sea 1 mile SE of the E entrance point of Guba Letnyaya. A village is situated along both banks of the river and can be approached by boats at HW. A prominent point is located 0.5 mile NNW of the mouth of the river and is distinctly silhouetted against a background of hills some distance inland. Mys Glyaden, located on the E side of the mouth of the river, is formed by a cliff and surmounted by a cross.

Guba Plekhanova (68°44'N., 37°32'E.) lies 1 mile S of Ostrov Kuvshin and is entered close W of Mys Plekhanov. Two drying rocks lie in the W part of the entrance. A point divides the head of this inlet into two small coves. The W cove has a least depth of 6.8m and the E cove a least depth of 0.4m. The best anchorage berth for large vessels during N winds lies

about 300m from the SW side of Ostrov Kharlov, in a depth of 29m, sand and stone. The S extremity of the island should bear about 106° and Ostrov Sikov should bear about 234°. Anchorage can be obtained during S winds anywhere off the mainland between the mouth of Reka Kharlovka and Ostrov Kuvshin, in depths of up to 40m, sand. During SE winds, the best anchorage berth lies off the W side of Ostrov Kuvshin in depths of 24 to 29m, sand.

Caution.—Magnetic anomalies have been reported to exist in the vicinity of a position 7 miles E of Ostrov Kharlov.

Sem' Ostrovov to Mys Svyatoy Nos

1.35 Between Mys Chegodayev and Mys Svyatoy Nos, 70 miles SE, the bare, granite coast is very uniform and mostly steep with the hills rarely exceeding a height of 100m. However, the hills standing farther inland are higher and their slopes are covered with tundra and grass. Except in the inlets and around some of the islands, this stretch of coast is steep-to and vessels may safely pass, in clear weather, within 2 or 3 miles of all the projecting points. Ostrov Kharlov and Mys Svyatoy Nos form the best landmarks.

Guba Voyatka (68°43'N., 37°34'E.), entered 1 mile SE of Mys Plekhanov, is 1.5 miles long. A depth of 11m lies in the entrance, but the inlet is mostly shallow and its head is encumbered with rocks.

Ostrova Litskiye (68°42'N., 37°44'E.), lying 3.5 miles ESE of the entrance into Guba Voyatka, consists of two islands, Ostrov Bol'shoy Litskiy and Ostrov Malyy Litskiy. The passage lying between the islands, which is about 300m wide, has a least depth of 6m and the sea sometimes breaks heavily within it. The channel leading between the islands and the mainland is deep and free of dangers.

Mys Litskiy (68°39'N., 37°48'E.), located 6.5 miles SE of the entrance into Guba Voyatka, is the NE extremity of a low, bare promontory with rugged and steep sides. The bay lying on the NW side of this promontory is rocky. Several above-water rocks lie about 0.2 mile off the coast, 1 mile NW of Mys Litskiy. A light is shown from a tower, 17m high, standing 0.3 mile SSW of the point. Large vessels can obtain anchorage in a depth of 22m with this light bearing 290°. The bottom of this roadstead is formed by stones, sand, and coral

1.36 Guba Vostochnaya Litsa (68°38'N., 37°48'E.) is entered between Mys Litskiy and a point, 1 mile SSE. A river discharges over a sand bar, with a depth of 0.6m, close S of the root of Mys Litskiy. A village is situated along both sides of the river at the foot of dark-colored cliffs. Small vessels can anchor near the mouth of the river in depths of 14 to 16m.

Guba Vostochnaya Polyutikha (68°47'N., 37°50'E.), entered 2 miles SSE of Mys Litskiy, is flanked by prominent steep, black cliffs. A small and low islet lies 0.3 mile NNE of the E entrance point. A rocky bar, which dries, lies midway between the entrance and the head of the inlet. Small vessels with local knowledge can anchor to seaward of this bar.

Ostrova Mertvetskiye (68°36'N., 37°53'E.) are two islets lying close together off a cove, 1 mile SE of the entrance to Guba Vostochnaya Polyutikha. A cross stands on the W and larger islet. Korabel'naya Pakhta, located 4.5 miles SE of these

islets, is a black bluff which forms the SE entrance point of an inlet. This inlet has depths of 3 to 4m. A shoal, with a depth of 2.1m, lies 0.5 mile SE of the bluff and is steep-to.

1.37 Guba Chervyanka (68°32'N., 38°02'E.) is entered on the NW side of a point which lies close E of Korabel'naya Pakhta. The inner part of this inlet dries and there is a sandy beach at its head. Guba Sidorovka, 4 miles SSE of Korabel'naya Pakhta, has a prominent waterfall on its steep W shore. A river, which flows into the head of this inlet, can be entered by boats at half tide.

Guba Dvorovaya (68°27'N., 38°14'E.), entered 3.5 miles SE of Guba Sidorovka, has a depth of 23m lying within 0.2 mile of its head. A prominent headland is located on the E side of the entrance to this inlet. During strong N winds, a swell runs into the inlet and violent squalls descend between its steep sides. Shoals, with depths of 14.5 and 17m, lie 2.5 miles E and 2.8 miles ENE, respectively, of the entrance into Guba Dvorovaya.

Guba Kruglaya (68°25'N., 38°20'E.), 3 miles SE of the entrance into Guba Dvorovaya, is fronted by Ostrov Kitay, which has several crosses standing on its summit and is joined to the mainland by a drying reef. Guba Kruglaya is entered between the S side of this island and the mainland. The bay is completely icebound in winter. Small vessels with local knowledge can obtain anchorage in the middle of the bay in depths of less than 6m, mud.

Nokuyevskiy Zaliv (68°24'N., 38°30'E.), an open bight, is entered between Ostrov Kitay and Mys Chernyy, 7 miles ESE. Four inlets lead S from this bight.

Ostrov Nokuyev (68°23'N., 38°28'E.), lying with its N extremity located 2.8 miles ESE of Ostrov Kitay, rises in its N part to a prominent dark hill with a rounded summit.

Guba Varzina (68°23'N., 38°23'E.) lies 2 miles SSE of Ostrov Kitay and indents the coast for 1.5 miles to the S. A settlement stands at the mouth of a river which empties into the head of this bay. The bay has depths of 9 to 27m in the entrance and shoals to a depth of 3.6m about 0.2 mile from the head. Ostrovok Ludka, a bare and rocky islet, lies 0.5 mile E of the E entrance point of the bay.

Guba Drozdovka (68°22'N., 38°27'E.) is entered on either side of Ostrovok Ludka, but the passage leading E of the islet is wider and deeper. A shoal, with a depth of less than 2m, lies 0.2 mile off the W shore of the inlet, 1 mile S of the islet. A lighted range stands on the W side of the inlet and, bearing 182°, indicates the fairway leading E of Ostrovok Ludka. Lights are shown from the E and W sides of the inlet.

Anchorage.—During S winds, temporary anchorage can be obtained off the entrance to Guba Varzina in a depth of 22m, stones.

A good anchorage lies 20 miles S of Ostrovok Ludka, slightly nearer to the W shore, in depths of up to 31m, mud. However, vessels must take care to avoid a shoal, with a depth of less than 2m, lying about 1 mile S of the islet.

1.38 Mys Chernyy (68°23'N., 38°39'E.) is the low N end of a promontory which forms the E shore of Zaliv Vostochnyy Nokuyevskiy (68°22'N., 38°35'E.). A black cliff, which is separated from the hills inland by a narrow depression, stands near the extremity of the point. This causes the point to resemble an islet when seen from the E. A light is shown from

a structure, 20m high, standing 0.2 mile within the point. A radiobeacon is situated at the light.

Guba Ivanovskaya (68°20'N., 38°30'E.) is entered between the E extremity of Ostrov Nokuyev and the N extremity of Poluostrov Ivanovskiy, 0.8 mile SE. Depths of less than 10m extend up to 0.2 mile from both entrance points. The fairway channel, within 1 mile of the entrance, has a least width of 300m and leads between banks on either side. The ice in the N half of Guba Ivanovskaya breaks up during N winds, but it is probable that even a large vessel can lay up for the winter in the S half.

The bay is generally clear of ice by the middle of April. Range lights, aligned 215°, may be shown on request and indicate the channel leading into the bay. The best anchorage berth lies on the alignment of the E extremity of Ostrov Nokuyev and the W extremity of Poluostrov Ivanovskiy, bearing about 012°. This berth lies 0.4 mile S of the latter point and has depths of 40 to 51m, mud.

1.39 Guba Shuritskaya (68°21'N., 38°36'E.), 10.5 miles long and 1 mile wide, is entered 1.5 miles SW of Mys Chernyy. Its E shore is steep and the W shore is fringed with rocks and an islet. Vessels can anchor in the middle of the entrance to this inlet in depths of 33 to 44m.

Mys Vzglav'ye (68°16'N., 38°58'E.), located 9 miles SE of Mys Chernyy, is the reddish, granite extremity of a small peninsula which extends ESE from the coast. Two islets and a drying rock lie close E of the point. Anchorage can be obtained in a bay, which is entered on the S side of the point, in depths of 13 to 17m.

Between Mys Vzglav'ye and the entrance to Guba Savikha, 5.5 miles SE, the coast becomes steeper. The gap in the coastline made by Guba Savikha is conspicuous from a distance of 10 to 15 miles. The E entrance point of Guba Savikha is prominent because of the black color of the granite on its N and W sides.

Guba Savikha (68°12'N., 39°08'E.), with high and steep shores, is clear of dangers on its E side. From a width of 1 mile at its entrance, the inlet narrows toward its head where it divides into two coves. Anchorage can be obtained, during offshore winds, in the middle of the inlet in depths of 27 to 29m.

Caution.—A prohibited area, the limits of which are shown on the chart, lies centered 4 miles SE of the entrance to Guba Savikha and extends up to 3 miles offshore.

1.40 Svyatonosskiy Zaliv (68°04'N., 39°44'E.) lies between Svyatonosskiy Poluostrov, a peninsula 8 miles long, and the mainland shore, to the SW. The bay is entered between Ostrov Chaichiy and Mys Svayatoy Nos, 8 miles ENE. The E shore of the bay is considerably steeper than the SW shore.

Ice.—The bay never freezes over, but in winter, floes from the White Sea are carried into it. The floes usually begin to pile up off Mys Svyatoy Nos in January, but no significant accumulation of ice has been observed there as late as March.

Tides—Currents.—Tidal currents off the SW shore of the bay run NW and SE at rates of about 1.5 knots. In the middle of the bay, on the parallel of Ostrov Chaichiy, they run WNW and ESE. Off the E shore, a constant current sets N.

Off Mys Svyatoy Nos, overfalls usually occur which are especially strong during the NW current and are dangerous for small vessels. They extend up to 6 miles NE and E from the point when the tide is rising and up to 6 miles N when it is falling. These overfalls often cause a heavy sea, especially during E winds.

Anchorage.—Anchorage can be obtained by large vessels in all parts of Svyatonosskiy Zaliv during winds from between S and E. However, if the wind shifts and blows from between N or NW, vessels should leave.

1.41 Guba Lopskoye Stanovishche (68°07'N., 39°47'E.), a small cove, lies 2 miles SSE of Mys Svyatoy Nos and indents the NE shore of the bay. It is flanked by high and dark-colored granite cliffs, but has grassy slopes at the head. Anchorage can be obtained just outside the entrance, during offshore winds, in a depth of 37m, sand and shells. The depths decrease rapidly inside the entrance of the cove.

Ostrova Iokangskiye (68°05'N., 39°32'E.), a group of islands, forms the SW part of Svyatonosskiy Zaliv. The islands lie close to the mainland from which they are separated by a narrow passage known as Iokangskiy Reyd. The three northwesternmost islands of the group are separated by a passage, 0.5 mile wide, which is the only feasible entrance channel leading to the roadstead. Ostrov Vitte, the largest and tallest island, is 2.5 miles long and lies close SE of Ostrov Chaichy. The strait leading between these islands is encumbered by islets and rocks. A light is shown from a structure standing on a conspicuous cliff at the S extremity of Ostrov Vitte. A dangerous wreck lies on a shallow bank, which fringes the SW shore of Ostrov Vitte, and is marked by a lighted buoy moored close E of it.

Ostrov Medvezhiy (68°03'N., 39°37'E.) lies 1.5 miles ESE of the E extremity of Ostrov Vitte. A light is shown a structure standing on the NW part of the island. A beacon stands close WSW of the light. The island is 1 mile long and much indented on its N side.

1.42 Iokangskiy Reyd (68°03'N., 39°34'E.) lies between Ostrova Iokangskiye and the mainland. It has a length of 6 miles and extends from the W side of Ostrov Chaichiy to the mouth of the Reka Iokanka. In the NW part of this roadstead, the mainland, as far SE as the middle of Ostrov Vitte, is fronted by extensive shoals with depths of less than 5.5m. Rocks and islets lie scattered on these shoals and extend up to 0.2 mile offshore in places. The main entrance to the roadstead, which lies between Ostrov Sal'nyy and Ostrov Medvezhiy, is accessible to all vessels. The NW entrance channel, which leads between the W side of Ostrov Chaichiy and the mainland, has several unmarked dangers lying in it and should not be used by vessels with drafts exceeding 5m. Three range lights, aligned 204°36', indicate the fairway leading through Proliv Bol'shaya Voroma, the principal entrance channel.

Range lights are shown from Ostrov Zelenyy and, bearing 125°45' astern, indicate the channel leading into the NW part of the roadstead. A shoal, with a depth of 5.8m, lies in the middle of the roadstead, about 1.2 miles WNW of a prominent red cliff on the SW side of Ostrov Vitte. The channel lying between Ostrov Vitte and Ostrov Sal'nyy can be used by small vessels with local knowledge.

Bukhta Observatornaya (68°03'N., 39°32'E.), lying on the SW side of the roadstead, is entered 0.8 mile SSW of Ostrov Sal'nyy. A shoal lies on the SE side of the approach and is marked by a buoy. A pier, 122m long, projects from the W shore of the cove and has depths of 9m alongside its head and 4m alongside its inner end.

Guba Gremikha is entered between a point, located 0.5 mile NNW of Bukhta Observatornaya, and another point, 0.4 mile WNW. A low islet, lying 0.2 mile W of the E entrance point, is connected with the SE shore by a bridge. A buoy, moored close N of this islet, marks the NW edge of a bank. A landing stage is situated on the W side of the islet and can be used by vessels not exceeding 59m in length. A narrow channel, with a least depth of 4.6m, leads to this landing stage.

Anchorage.—The best anchorage berth in Iokangskiy Reyd lies within an area extending 1 mile NW from the alignment of the E extremity of Ostrov Vitte with the NW extremity of Ostrov Sal'nyy. This anchorage has depths of 9 to 18m, mud and sand. Moderately secure anchorage can be obtained 0.3 to 0.5 mile S of Ostrov Sal'nyy, in depths of up to 25m, sand.

1.43 Mys Svyatoy Nos (68°09'N., 39°46'E.) is one of the most prominent landmarks along this coast. It is the rocky N extremity of a peninsula which extends 8 miles NNW from the general line of the shore. This peninsula is 79 to 91m high in its central part, but is lower at the N end. A light is shown from a tower, 22m high, standing 1.2 miles within the point. A radiobeacon is situated 1 mile NNW of the light. A deep ravine, which is located 2 miles within the point, makes the N part of the peninsula appear as an island when viewed from the N

Caution.—A Traffic Separation Scheme lies centered 6.5 miles NNW of Mys Svyatoy Nos and may best be seen on the chart. Traffic lanes lead in a SE/NW direction past the point and also join the scheme from the NE. Recommended tracks lead SE from this scheme along the coast.

This scheme is not IMO-adopted. However, the Russian authorities state that Rule 10 of the International Regulations for Preventing Collisions at Sea (1972) applies.

White Sea (Beloye More)

1.44 The White Sea, known to the Russians as Beloye More, is entered between Mys Svyatoy Nos and Mys Kanin Nos, 85 miles ENE. It extends generally SW for 300 miles to the town of Onega, and on its SE side lies the port of Arkhangel'sk. The sea is comparatively shallow and free of ice from June through October. The N part of the sea contains a few islands and is greatly encumbered by extensive reefs and shoals. Two feasible channels lead between the dangers. Kaninskiy Channel lies off the E shore and Terskiy Channel lies off the W shore.

Caution.—Local magnetic anomalies are reported to be considerable at the entrance to the White Sea. Care should be exercised when navigating in the vicinity of land and when in shallow water.

Formerly mined and dangerous areas, the limits of which are shown on the chart, lie in the entrance to the White Sea. They are open to navigation, but anchoring is prohibited within them.

Mys Svyatoy Nos to Reka Ponoy

1.45 Guba Volokovaya (68°08'N., 39°48'E.) lies 1.8 miles SE of Mys Svyatoy Nos. This cove is encumbered with rocks and dries. It can be entered by boats between half tide and HW.

Guba Korov'ya, 10.5 miles SE of Guba Volokovaya, lies on the W side of Mys Koroviy Nos from which a light is shown. This cove affords anchorage to small vessels with local knowledge.

Guba Startseva (67°56'N., 40°10'E.), 4 miles SE of Mys Koroviy Nos, has a depth of 7.8m in the entrance. This cove divides into two arms, the heads of which dry. Small craft, with local knowledge, may obtain anchorage in the W arm, but they may ground at LW.

Mys Krestovyy (67°54'N., 40°20'E.) is the E entrance point of Guba Kakovikha, a creek, which dries and affords shelter to small craft with local knowledge. Some flat rocks, which dry, lie on a reef extending 0.2 mile NE from the point. Banka Moriston, with a depth of less than 2m, lies charted 3 miles NE of Mys Krestovyy, but its position is doubtful.

Lumbovskiy Zaliv (67°48'N., 40°26'E.) is entered between Mys Kakovikha, 1.2 miles SE of Mys Krestovyy, and Mys Obornyy (67°48'N., 40°38'E.). Ostrov Lumbovskiy, lying in the entrance to the bay, has a beacon standing on its summit. The principal entrance channel leading into the bay passes between Ostrov Baklan'i Ludy (67°50'N., 40°28'E.) and Ostrov Shchukiny, lying 1.2 mile WNW.

Caution.—A prohibited area, the limits of which are shown on the chart, lies centered off the entrance to Lumbovskiy Zaliv and extends up to 7 miles from the coast.

Mys Bol'shoy Gorodetskiy (67°N., 40°54'E.), the NE extremity of a prominent headland, lies 7 miles SE of Mys Obornyy. It is very prominent, being high and light in color. Banka Edzhent, with a depth of 0.6m, lies about 2.5 miles WNW of the point, but its position is doubtful. Guba Gorodetskaya is entered between the point and Mys Malyy Gorodetskiy, 1.5 miles SE. Anchorage can be obtained at the head of this bay by small vessels with local knowledge.

Guba Sazonova (67°42'N., 40°59'E.), a creek, is located 1 mile SE of Mys Malyy Gorodetskiy. Its shores are backed by cliffs. Gorodetskiy Light is shown from a tower, 19m high, standing on the summit of a hill on the S shore of this creek. A radiobeacon is situated at the light and several buildings stand close W of it.

1.46 Guba Nemetskaya Vilovataya (67°40'N., 41°00'E.) lies 1.5 miles SSE of Gorodetskiy Light. This bay affords anchorage to small vessels with local knowledge. Guba Panfilova, entered 7.5 miles S of Guba Nemetskaya Vilovataya, is also used as an anchorage for small vessels with local knowledge. A local magnetic anomaly has been reported to exist in this bay.

Mys Ostraya Ludka (67°26'N., 41°06'E.) lies 8 miles SSE of Guba Panfilova and is the SE entrance point of a creek which dries. A light is shown from a structure standing 0.8 mile S of the point.

Mys Orlov-Terskiy Tolstyy (67°12'N., 41°20'E.), located 13 miles SSE of Mys Ostraya Ludka, is the NE extremity of Tersko-Orlovskiy, a bold headland. A reef, which dries, extends about 0.8 mile NNW from the N part of this headland.

Tersko-Orlovskiy Light is shown from a tower, 20m high, standing on the headland. A radiobeacon is situated at the light.

Banka Rusinga, with a depth of 4.3m, lies 3 miles SSE of the light. A conspicuous radar scanner is situated 6 miles SSW of Mys Orlov-Terskiy Tolstyy. A local magnetic anomaly was reported to exist in the vicinity of this point.

Caution.—A Traffic Separation Scheme has been established off Ostraya Ludka, extending between 67°40'N and 67°05'N. Traffic lanes leading from N, NNE, and S converge at a roundabout, and may best be seen on the chart. Recommended tracks, shown on the chart, lead N and S from the traffic lanes.

This scheme is not adopted by the IMO. However, the Russian authorities state that Rule 10 of The International Regulations for Preventing Collisions at Sea (1972) applies.

1.47 Ostrov Veshnyak (67°07'N., 41°24'E.) lies 5.5 miles SSE of Mys Orlov-Terskiy Tolstyy. A light is shown from a tower, 25m high, standing on the middle part of this island. Anchorage may be obtained SSW of the island in a depth of 6m, but it is not recommended as the holding ground is poor and the currents attain velocities of 3 to 4 knots.

Ostrov Tabachnyy Kuvshin, lying close offshore and 3.5 miles SSW of Ostrov Veshnyak, is a steep, granite islet. Ostrov Goryainov, lying 1 mile S of Ostrov Tabachnyy Kuvshin, is rocky and covered with tundra and green moss.

Ostrova Ponoyskiye Ludki (66°59'N., 41°20'E.), a group of small and bare islets, lies on the E edge of the drying coastal bank which extends from the N entrance point of Reka Ponoy. A light is shown from a structure standing on the southeasternmost islet of the group.

Reka Ponoy (67°00'N., 41°15'E.), one of the largest rivers in Poluostrov Kol'skiy, discharges through a steep-sided gorge between Mys Korabel'nyy and Mys Krasnyy, 2.2 miles S. The river entrance is conspicuous from the S and E. The village of Ponoy is situated on the SW bank, 7.5 miles upstream. The river estuary is filled with drying banks except for a narrow and tortuous channel which is only suitable for small craft with local knowledge. The ebb tidal current attains a rate of more than 3 knots at springs. Anchorage can be obtained in a roadstead, in depths of 10 to 12m, close E of the N entrance point of the river. The preferred anchorage berth lies close to the southeasternmost islet of Ostrova Ponoyskiye Ludki.

Severnyye Koshki

1.48 Near the middle of the N part of the White Sea, there is an extensive area of shoals, known as Severnyye Koshki. These shoals occupy an area which extends about 43 miles in a N/S direction and about 35 miles in an E/W direction. Navigation in the vicinity of these shoals is not recommended without local knowledge. The shoals are disposed in four ridges, each of which lies in the direction taken by the tidal currents.

The first or SW ridge includes Bol'shaya Orlovskaya Koshka, Trekhostrovskaya Koshka, and Goryainovskaya

Koshka. A lighted buoy is moored 3 miles NNW of the N extremity of Bol'shaya Orlovskaya Koshka. The second ridge from SW is formed by Bol'shaya Srednyaya Koshka, the S part of which is Banka Litke. The third ridge from SW is Konushinskaya Koshka and the northeasternmost ridge is Mel' Kiyskaya.

Gorlo

1.49 Gorlo, the channel connecting the N and S parts of the White Sea, extends 90 miles SW from its entrance adjacent to Reka Ponoy. The channel is considerably deeper on its NW side than on its SE side. Recommended tracks lead through Gorlo and may best be seen on the chart. The SW current runs obliquely across the channel from Ostrov Sosnovets to Mys Intsy, 30 miles S, and the NE current runs in the opposite direction. The velocity of these currents does not exceed 3.5 knots.

The coast extending from the mouth of Reka Ponoy to abreast Ostrov Sosnovets, 32 miles SW, is covered with tundra and white moss, and fissured by many red-colored ravines. There are no safe anchorages along this part of the coast, but vessels may anchor not less than 2 miles offshore, in depths of 18 to 27m. The best anchorage during fresh W winds lies in the SE part of Proliv Sosnovskaya Salma and is suitable for large vessels.

Ostrov Danilov (66°45'N., 41°05'E.), marked by a light, lies 12.5 miles SSW of the S entrance point of Reka Ponoy. This islet lies close off the coast to which it is connected by a drying shoal. A hill rising at the center of the islet is covered by conspicuous yellow moss.

Reka Pyalka (66°43'N., 41°00'E.) enters the sea, 2.8 miles SW of Ostrov Danilov. The banks at the entrance to this river consist of steep, bare rocks, and two drying rocks lie close off the S entrance point. The river entrance resembles a dark ravine covered with yellow moss. Gora Ploskaya, with a gently rounded top, lies 10 miles WNW of Ostrov Danilov.

1.50 Ostrov Sosnovets (66°29'N., 40°41'E.), 18 miles SW of Ostrov Danilov, is covered with tundra and has steep sides. A light is shown from a tower, 31m high, standing near the middle of this island. A radiobeacon is situated at the light and several radio masts stand close S of it. Lights are also shown from pyramids which stand on the N and S extremities of the island.

Proliv Sosnovskaya Salma separates Ostrov Sosnovetskiy from the coast. The village of Sosnovka stands on the coast, 2.5 miles W of the island. Anchorage may be obtained in the SE part of Proliv Sosnovskaya Salma, in a depth of 8m, with the light tower standing in the middle of the island bearing 100°.

Caution.—A Traffic Separation Scheme has been established SW of Ostrov Sosnovets and may best be seen on the chart. Traffic lanes lead from NNE, SW, and SSW to a junction. Recommended tracks lead into these traffic lanes.

The scheme is not adopted by the IMO. However, the Russian authorities state that Rule 10 of the International Regulations for Preventing Collisions at Sea (1972) applies.

1.51 Guba Glubokaya (66°26'N., 40°30'E.), entered 5.5 miles SW of Ostrov Sosnovets, dries. Reefs extend from both entrance points of this inlet and small craft can only enter at half tide. Guba Bol'shaya Bab'ya lies 5 miles SW of Guba Glubokaya and several huts stand on its E entrance point.

Mys Belyy Mokh (66°21'N., 40°14'E.) is prominent and covered with white moss which extends down to the water's edge. A rock, which dries, lies about 0.5 mile S of this point.

Mys Pogorel'skiy (66°17'N., 40°06'E.) lies 5 miles SW of Mys Belyy Mokh. The coast in the vicinity of this point is low and sandy, and the hills are covered with trees and bushes. Pulon'ga Light is shown from a structure standing on a sandhill near a coastal village, 1.2 miles WSW of the point. A prominent tower, with four supports, stands 1.5 miles NE of the light. Mys Pulong'skiy Nos, a slight projection, is located 2 miles WSW of the light.

Reka Pyalitsa (66°11'N., 39°32'E.) enters the sea between sandy, clay bluffs, 10 miles WSW of Mys Pulong'skiy Nos. The village of Pyalitsa stands on the E entrance point.

Mys Nikodimskiy (66°06'N., 39°06'E.), 12 miles WSW of the entrance to Reka Pyalista, is backed by a high hill. A light is shown from a pyramid structure, 27m high, standing on the point. A radiobeacon is situated 0.3 mile SE of the light and a beacon stands 0.2 mile S of it. Anchorage may be obtained 1.2 miles E of the point in a depth of 10m. Small vessels may find shelter off the SW side of a drying bank which projects from the point. Between Mys Belyy Mokh and Mys Nikodimskiy, shoals, with depths of less than 10m, lie up to 5 miles offshore in places.

1.52 The coast, which is high and cliffy in the vicinity of Mys Nikodimskiy, slopes more gradually and is without cliffs at the mouth of Reka Chapoma, 5 miles W. The character of the coast continues as far as Tetrino, a village, which stands 15 miles farther W. The forest recedes inland at a distance of 2 to 3 miles from Mys Nikodimskiy and the coastal belt is covered with low trees, bushes, and marshes.

Chapoma (66°06'N., 38°52'E.) stands on the W side of the mouth of Reka Chapoma. A bar fronts the river entrance and channels lie on either side of it. The W channel is the deeper one, but has many rocks in it. The E channel is clear, but shallow, and should only be used by small craft. A shallow bank lies about 0.5 mile offshore, 4 miles SW of Chapoma.

Strel'na (66°04'N., 38°39'E.), a village, stands on the E side of Reka Strel'na, 5.5 miles WSW of Chapoma. The estuary of the river is entered between two sandy bluffs. It dries completely except for a narrow and shallow channel leading E of three islets which lie in the middle.

Mys Kamennyy (66°03'N., 38°20'E.), 8 miles W of the mouth of Reka Strel'na, is the W entrance point of Reka Kamenka. This river is only accessible by boats at HW. The village of Tetrino, which stands 2 miles W of Mys Kamennyy, has a prominent white church situated on a bluff.

Chavan'ga (66°06'N., 37°45'E.), a village standing on the E side of the mouth of Reka Chavan'ga, is situated 12 miles WNW of Tetrino. A white building, with three domes, stands behind the village and provides a good landmark. Shoals, with depths of less than 20m, lie up to 4 miles offshore in places between Mys Nikodimskiy and Chavan'ga.

1.53 Reka Varzuga (66°17'N., 36°55'E.), fronted by a sandy bar, lies 22 miles NW of Chavan'ga and is accessible by vessels with drafts of up to 2.4m. Two white buildings stand in Kuzomen, a village, which is situated on the SW bank of the river, 2 miles within the entrance. A light is shown from the W side of the mouth of the river. A drying sandbank extends 0.5 mile S from the E entrance point. The approach channel frequently changes position after prolonged onshore winds. Anchorage can be obtained about 1 mile off the mouth of the river in a depth of 8m. A local magnetic anomaly has been reported to exist off the mouth of the river.

Kashkarantsy (66°20'N., 36°01'E.), a village, stands on a low promontory, 23 miles WNW of the mouth of Reka Varzuga. The church and a gray building, situated in the village, are easily identified from seaward. A light is shown from a tower adjoining a house, 24m high, standing in the village. A radiobeacon is situated at the light.

A bank, with a depth of 0.3m, lies 0.5 mile S of the promontory. Anchorage can be obtained off the village in a depth of 5m, but this roadstead it is not safe during fresh S winds.

Mys Ludoshnyy (66°21'N., 35°49'E.), 5 miles W of Kashkarantsy, is the NE entrance point of Kandalakshskiy Zaliv, which is described in Sector 2.

Mys Kanin Nos to Mezenskiy Zaliv

1.54 Mys Kanin Nos (68°40'N., 43°17'E.), the E entrance point of the White Sea (Beloye More), forms the NW extremity of Poluostrov Kanin, a peninsula about 130 miles long. A light, equipped with a radiobeacon, is shown from a structure, 23m high, standing near this point.

The point is low, but is backed by a range of hills, the highest and most prominent of which attains a height of 188m about 6 miles ESE of the light.

A small roadstead, sheltered by a reef, lies 10 miles SE of Mys Kamin Nos and affords shelter to small craft. The approach is indicated by range beacons, but they are reported to be difficult to identify.

Reka Bol'shaya Bugryanitsa (68°14'N., 44°14'E.), 21 miles SE of Tarkhanov Light, is accessible to small craft at HW. A settlement stands 0.5 mile above the river mouth. A light is shown from the S side of the entrance.

Torna Light (68°04'N., 44°12'E.) is situated 1.2 miles N of the entrance to Reka Torna. Mys Vanchey, a bluff headland, lies on the S side of the mouth of Reka Torna.

Reka Shoyna (67°54'N., 44°07'E.) discharges into the sea from a wide opening, lying between two hillocks, and flows through a drying delta which extends 2.5 miles offshore. A light, equipped with a radiobeacon, is shown from the S entrance point of the river, close to the settlement of Shoyna. A lighted buoy is moored about 2.5 miles WNW of the light. The estuary dries and exposes numerous banks of clay and isolated rocks. The river is accessible at HW by vessels with drafts of up to 3.7m. However, local knowledge is required as the accuracy of the ranges should not be relied upon.

Mys Ludovatyy, located 3 miles SSW of the river mouth, has three prominent hillocks on its summit. A saddle-shaped hillock rises 1 mile S of the point. It is 12m high and easily identified from the N.

Reka Kiya (67°40'N., 44°11'E.) enters the sea 9 miles S of Mys Ludovatyy. Ostrov Morskaya Korga lies close off the N entrance point of this river. Kiyskiy Light is shown from a structure standing 0.4 mile SE of the S entrance point of the river. Anchorage can be obtained by small vessels on the S side of the estuary, in a depth of about 3m. Local knowledge is required.

Mys Lagyshev (67°33'N., 43°58'E.), a slight projection, is located 8.5 miles SSW of the S entrance point of Reka Kiya. A beacon stands on an isolated hill which rises near this point. Bogatyy Light is shown from a pyramidal structure standing 2 miles S of the beacon.

Mys Tolstik, 19 miles SSW of Mys Lagyshev, is 47m high and has a flat summit. This point is very prominent from seaward.

Mys Konushin (67°11'N., 43°47'E.), 2.5 miles S of Mys Tolstik, consists of crumbling and sandy clay cliffs, up to 30m high, with landslips in places. A light is shown from a structure standing 0.5 mile N of Mys Konushin. A radiobeacon is situated at the light. Anchorage can be obtained by small craft in a shallow bay indenting the E side of Mys Konushinskaya Korga, a low point located 4 miles SE of Mys Konushin.

Caution.—Vessels bound for the S part of the White Sea should follow the recommended routes leading along the W side of the entrance as there are numerous shoals, which are liable to change, lying up to 40 miles off the E shore. In addition, strong and irregular tidal currents sometimes attain rate of up to 5 knots off the E side of the entrance.

Mezenskiy Zaliv

1.55 Mezenskiy Zaliv (66°44'N, 43°50'E.) is entered between Mys Konushin and Mys Voronov, 55 miles SW. Vessels are warned that the depths in this gulf are subject to constant change due to the strong tidal currents. A number of banks lie in Mezenskiy Zaliv and can best be seen on the appropriate charts.

Ice.—Ice forms early in the gulf, but because of the strong tidal currents, the middle of the gulf is never covered with pack ice. Generally, navigation is only possible between the middle of May and the end of November.

Tides—Currents.—The current, during the flood tide, runs S along the banks extending off the E shore until the height of the tide exceeds the level of the banks. A bore is then formed which sweeps E over the banks toward the shore. This bore, which usually occurs about 4 hours before HW, attains a height of 2m and is dangerous as the force of the roller may carry vessels onto the banks.

Reka Chizha (67°04'N., 44°21'E.) discharges between Mys Korgovyy, a low point located 15 miles SE of Mys Konushin, and Chernyy Nos, a steep black cliff standing 1.2 miles S. The mouth of this river is approached through a narrow and tortuous channel. This channel leads over the drying coastal bank and has a least depth of 2.7m. A prominent beacon stands on Mys Korgovyy and four pairs of range beacons indicate the approach to the river mouth. Small vessels, with local knowledge, can anchor close off the river entrance.

Reka Nes' (66°39'N., 44°30'E.) discharges into the sea through a broad coastal depression, 24 miles S of Chernyy Nos. A lighted beacon stands close N of the low N entrance

point. The river is approached through a narrow channel, which dries and can be used by small craft at half flood tide. A lighted buoy is moored about 10 miles WSW of the beacon.

Reka Mgla (66°29'N., 44°23'E.) lies 9 miles SSW of Reka Nes'. A narrow drying channel, with a least depth of 1m, leads over the coastal banks to the entrance of this river. The tidal currents in the river have rates of 2 to 3 knots. A light, equipped with a radar reflector, is shown from the N entrance point, but was reported (1989) to be destroyed. A village stands close within the river entrance.

Mys Ryabinov (66°11'N., 44°05'E.) lies 20 miles SSW of Reka Mgla. The coast between is about 9m high and covered with trees, but it rises steeply to a height of 15m near the point.

1.56 The two principal rivers of Mezenskiy Zaliv, Reka Kuloy and Reka Mezen, flow into the head of the gulf between Mys Ryabinov and Mys Kharin Nos, 10 miles W. The mouths of these two rivers are separated by a point of land which terminates at Mys Apovskiy. A shoal bank extends about 3 miles N from Mys Apovskiy and is marked by a lighted buoy.

Reka Kuloy (66°12'N., 43°39'E.) and its many tributaries have no commercial significance for shipping. The village of Dolgoshchel'ye stands 15 miles above the river mouth. Vessels should not attempt to enter this river without the assistance of persons from the village who will act as pilots. The best anchorage is in a depth of 9m about 0.8 miles WSW of Mys Kargovskiy (66°12'N., 43°43'E.). Small vessels can anchor anywhere in the mouth of the river, but not closer than 0.4 mile from the NW bank or 0.2 mile from the SE bank.

Reka Mezen (66°10'N., 44°00'E.) flows into the head of Mezenskiy Zaliv between Mys Ryabinov and Mys Maslyanyy. The latter point, from which a light is shown, is located 1.5 miles SE of Mys Apovskiy. This river freezes over only partially, but does so sometimes as early as the beginning of November. The ice usually breaks up in early May. Icebreaker assistance is not available at the anchorage.

Pilotage.—Pilotage is compulsory. Pilots board about 4 miles NW of Semzha in the vicinity of the entrance lighted buoy.

Pilots cannot board vessels earlier than 2 hours before HW in the Semzha river and vessels should be piloted into the port not later than 1 hour before the water in the river reaches its highest level. Vessels should request pilotage and give an ETA by radio 24 hours before their arrival at the pilot station. A confirmation should be sent 12 hours prior to arrival. Pilotage cannot be carried out at night. If pilots cannot board due to bad weather, vessels should follow the pilot boat to Mys Tolstik, located 7 miles above the mouth, where pilots will embark. Vessels should keep a constant watch on VHF when approaching and navigating within Reka Mezen.

Directions.—Reka Mezen can be approached from the N, or from the W, through Proliv Morzhovskaya Salma. When approaching from the W, which is the preferred route, vessels should steer to pass close S of No. 1 lighted buoy, moored 16 miles E of Mys Voronov, and close S of the lighted buoy marking Banka Okden, moored 3.2 miles NE of Mys Abramovskiy. When 9 miles E of Mys Abramovskiy, vessels should steer SE toward Lighted Buoy No. 2, moored 7.5 miles N of Mys Apovskiy. They should then steer a SSE course

toward the lighted buoy moored at the river entrance, 2.5 miles WSW of Mys Ryabinov. The channel leading to the inner roads is marked by ranges, beacons, and buoys.

1.57 Mezen' (65°50'N., 44°04'E.) (World Port Index No. 62775) is a commercial port lying 22 miles S of the mouth of the Reka Mezen. It is the only port open to foreign shipping in the N part of the White Sea (Beloye More). However, there are no harbor installations or lifting appliances.

Winds—Weather.—Vessels are not permitted to sail in winds exceeding Force 6.

Winds from N may raise the water level in the river and those from S may lower it.

Ice.—The port is generally open for navigation from the end of May to the end of October.

Tides—Currents.—The tides in the Reka Mezen rise about 7.5m at springs and 6.8m at neaps at Semzha (66°09'N., 44°06'E.), and 2.3m at springs and 2.1m at neaps at Kamenka (65°53'N., 44°08'E.).

Depths—Limitations.—Generally, vessels of up to 120m in length and 4.5m draft can be accommodated. There are several floating pontoons in the port which form a berth, 200m long, with a depth of 3.5m alongside. The entrance fairway has least depth of 0.9m. Vessels may only enter the port during daylight hours and at HW. Vessels may take the ground at LW.

Anchorage.—Large vessels can anchor in the vicinity of the entrance lighted buoy. This roadstead has depths of 5 to 8m with poor holding ground. Several places in the river also afford anchorage, but local knowledge is required and vessels should only anchor under the direction of a pilot.

Caution.—Storm surges in spring raise the water level at the mouth of the river by 1.2m. A significant rise in water level may also be experienced in spring due to the melting snow.

1.58 Mys Malyy Perechnyy (66°18'N., 43°36'E.), 4 miles NW of the N entrance point of Reka Kuloy, is formed by a steep cliff of sandy clay. A prominent wood stands on the summit of the point.

A river, used by small craft, is entered 6 miles WNW of the point. A bank, which dries, extends 4 miles NE from the mouth of this river. Vysypnoy Light is shown from a structure, 10m high, standing 1.8 miles NNW of the river mouth.

Mys Abramovskiy (66°25'N., 43°15'E.), 10.5 miles NW of Mys Malyy Perechnyy, is prominent. This point slopes downward gradually toward the mainland and consists of a conspicuous, gray cliff marked by black landslides. A light is shown from a structure, 14m high, standing on the point. A radiobeacon is situated at the light.

1.59 Reka Koyda (66°22'N., 42°34'E.) flows into Mezenskiy Zaliv through an estuary lying close SE of Mys Strel'nichnyy. Gora Kovriga, 27m high, is a prominent hill standing on the S shore of the estuary. Yurovatyy Light is shown from a structure standing on a point, 2.5 miles N of the river mouth. Mys Strel'nichnyy, located 15 miles W of Mys Abramovskiy, is a narrow and sloping point which is fringed by drying rocks.

Mys Voronov (66°31'N., 42°15'E.), the SW entrance point of Mezenskiy Zaliv, is formed by a steep, sandy, and clay bluff. This bluff, which is located 26 miles WNW of Mys

Abramovskiy, is 21m high and prominent. Several hills, covered with trees, rise 0.5 mile within the point and attain heights of up to 87m. A light is shown from a structure, 18m high, standing on the bluff and a radiobeacon is located at it.

Ostrov Morzhovets (66°43'N., 42°34'E.) lies in the W entrance to Mezenskiy Zaliv, 13 miles NNE of Mys Voronov. This island is oval-shaped, 8 miles long, and 4 miles wide. A light is shown from a tower, 30m high, standing on the W side of the island. A radiobeacon is situated at the light and a disused light tower stands close N of it. A light is also shown from the SE end of the island.

Several shoals, with a least depth of 2.8m, extend up to 11 miles N from the island. A group of shoals, with depths of 3 to 5m, extends about 5 miles N and NE of the island. Banka Servernaya Sibiryakov Nesyak, Banka Yuzhnaya Sibiryakov Nesyak, which have drying patches, and Banka Fal'kanzher, which has a least depth of 0.1m, lie 9 miles E, 8 miles SE, and 17 miles SE, respectively, of Ostrov Morzhovets.

Zimniy Bereg

1.60 Zimniy Bereg (66°00'N., 41°00'E.) extends 90 miles SW from Mys Voronov to Mys Zimnegorskiy and forms the SE shore of Gorlo. Between Mys Voronov and the mouth of Reka Ruch'i, 37 miles SW, the coast becomes lower, the high black cliffs around Mys Voronov being replaced by those of sandy clay. The coast to the SW of Mys Intsy rises again and is approached by the inland hills, which reach the sea at Mys Lysunov.

Mys Tolstyy Nos (66°24'N., 42°01'E.) lies 9 miles SSW of Mys Voronov. This point can be distinguished by its crumbling slopes. A shoal patch, with a depth of 3m, lies about 3.5 miles NW of the point.

Reka Mayda enters the sea 4.8 miles SW of Mys Tolstyy Nos. This river is accessible by small craft at HW. A village stands on the S bank, 3 miles above the mouth. Mys Oleniy Nos is located 1.2 miles WSW of the mouth of the river and a light is shown from its S side.

Reka Megra (66°09'N., 41°35'E.), which can be only entered by boats at HW, flows through a conspicuous wide and winding valley and discharges between two low entrance points. A lighted beacon stands near the N entrance point.

Reka Ruch'i flows into the sea 11 miles SW of Reka Megra. The mouth of this river is fronted, for 0.3 mile, by a drying shoal over which boats can pass at HW. A village, with a conspicuous church, is situated on the S bank of the river and stands at a bend close within the entrance. A light is shown from a structure standing near the S entrance point of the river.

1.61 Mys Intsy (65°58'N., 40°42'E.) is the northeasternmost point of Zimniy Bereg and lies 13 miles WSW of the mouth of Reka Ruch'i. A light is shown from a structure standing 1.5 miles SW of the point. Inetskaya Banka, a shoal, lies 6 miles NNE of the point and has a least depth of 3.4m. A lighted buoy is moored near the SW extremity of this shoal.

Reka Tova (65°47'N., 40°25'E.) flows into sea between two low, sandy banks 15 miles SW of Mys Intsy. The mouth of this

river is easily distinguished as its N side is steep and its S side consists of a low, sandy spit nearly 1 mile long. An islet lies in the middle of the entrance and channels lie on either side of it.

1.62 Reka Zimnyaya Zolotitsa (65°41'N., 40°13'E.) enters the sea 3 miles SW of Mys Ostryy. A sandy spit, which dries, extends a considerable distance seaward from the S entrance point. There are depths of 2m in the entrance and up to 3m in the fairway inside the entrance. Two villages stand along the banks of the river. A light is shown from a structure standing 1 mile SW of the river mouth.

Mys Veprevskiy (65°38'N., 39°52'E.) is located 9 miles SW of Reka Zimnyaya Zolotitsa. A light is shown from a turret on a building, 11m high, standing on the point. A radiobeacon is situated at the light.

Mys Zimnegorskiy (65°29'N., 39°43'E.), located 9.5 miles SSW of Mys Veprevskiy, can be easily identified by its steep, blue-colored slopes. A light is shown from a prominent tower standing on this point. A valley, with very steep sides and a stream, lies on the S side of the point. Several buildings, with red roofs, are situated near the light and the coast in the vicinity is covered with dense forest.